

# JVC

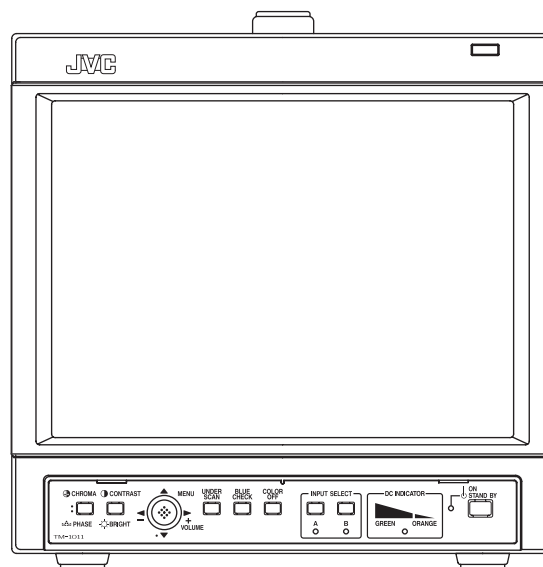
## SERVICE MANUAL

COLOR VIDEO MONITOR

**TM-1011G/c,  
TM-1011G/E,  
TM-1011G/U**

BASIC CHASSIS

V2



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# SPECIFICATION

Items		Contents		
		TM-1011G/C	TM-1011G/E	TM-1011G/U
Type		Color video monitor		
Dimensions (W × H × D)		22.2cm × 23.0cm × 33.8cm (8-3/4" × 9-1/8" × 13-3/8")		
Mass		7.8kg (17.2lbs)		
Compliant Video Signal	INPUT A / INPUT B	NTSC3.58 MHz, PAL 4.43MHz, White/Black (50Hz/60Hz)		
Input Signal Frequency	Horizontal	15kHz		
	Vertical	50Hz / 60Hz		
Video Band		6MHz(-3dB)		
Power Input		AC220V - AC240V, 50Hz / 60Hz, DC12V		AC120V, 60Hz, DC12V
Power Consumption		0.6A (AC 220V-AC240V), 4.3A (DC 12V )		0.9A (AC 120V), 4.3A (DC 12V )
Environmental Conditions	Operating Temperature	0°C - 40°C (32°F - 104°F)		
	Operating Humidity	20% - 80% (non-condensing)		
Picture Tube		A22AKQ13X17 10-inch measured diagonally		
Screen Size		Diagonal : 22.5cm (8-13/16") / H:13.8cm (5-3/8") × W:17.7cm (6-15/16")		
CRT High Voltage (Anode)		22.0kV ± 1.3kV		
Horizontal Resolution	Video Input	280TV lines		
Composite Video Input/Output [VIDEO A / VIDEO B]		2lines, 1V(p-p), 75Ω, BNC connector × 4 The input (IN) and output (OUT) terminals are bridge-connected. (Auto termination)		
Analog audio Input/Output [AUDIO A / AUDIO B]		2lines, 1V(p-p), RCA connector × 4 (0.5V (rms), high impedance) The input (IN) and output (OUT) terminals are bridge-connected.		
Speaker		8 cm, Round type × 1		
Audio output		1 W		
Remote Input/Output	MAKE/TRIGGER	Point-of-contact connection, 1line, RJ-45 8pin × 1		

Design & specifications are subject to change without notice.

# SECTION 1

## PRECAUTION

### 1.1 SAFETY PRECAUTIONS [EXCEPT FOR UK]

- (1) The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
- (2) Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- (3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (  $\Delta$  ) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
- (4) **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**  
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (  $\perp$  ) side GND, the ISOLATED (NEUTRAL) : (  $\equiv$  ) side GND and EARTH : (  $\oplus$  ) side GND.  
Don't short between the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND and never measure the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND at the same time with a measuring apparatus (oscilloscope etc.). If above note will not be kept, a fuse or any parts will be broken.
- (5) If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
- (6) The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
- (7) Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10k $\Omega$  2W resistor to the anode button.

- (8) When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

- (9) **Isolation Check (Safety for Electrical Shock Hazard)**  
After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

#### a) Dielectric Strength Test

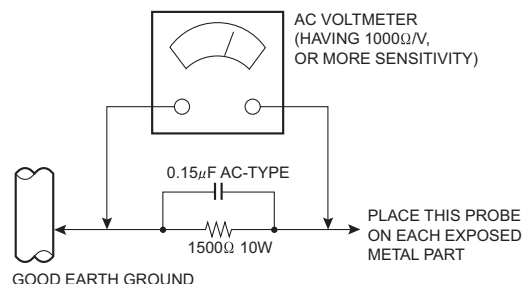
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second. ( . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.) This method of test requires a test equipment not generally found in the service trade.

#### b) Leakage Current Check


Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.). However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

#### Alternate Check Method

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 $\Omega$  per volt or more sensitivity in the following manner. Connect a 1500 $\Omega$  10W resistor paralleled by a 0.15 $\mu$ F AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.). However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



## 1.2 SAFETY PRECAUTIONS [FOR UK]

- (1) The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
- (2) Alterations of the design or circuitry of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- (3) Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessary be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (  ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may cause shock, fire, or other hazards.
- (4) The leads in the products are routed and dressed with ties, clamps, tubing's, barriers and the like to be separated from live parts, high temperature parts, moving parts and / or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

### WARNING

- (1) The equipment has been designed and manufactured to meet international safety standards.
- (2) It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
- (3) Repairs must be made in accordance with the relevant safety standards.
- (4) It is essential that safety critical components are replaced by approved parts.
- (5) If mains voltage selector is provided, check setting for local voltage.

### 1.3 SAFETY PRECAUTIONS [FOR US]

- (1) The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
- (2) Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- (3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (  $\Delta$  ) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
- (4) **Use isolation transformer when hot chassis.**  
The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.
- (5) **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**  
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (  $\perp$  ) side GND, the ISOLATED (NEUTRAL) : (  $\equiv$  ) side GND and EARTH : (  $\oplus$  ) side GND.  
Don't short between the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND and never measure the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND at the same time with a measuring apparatus (oscilloscope etc.). If above note will not be kept, a fuse or any parts will be broken.
- (6) If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
- (7) The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
- (8) Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10k $\Omega$  2W resistor to the anode button.
- (9) When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

#### (10) Isolation Check (Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

##### a) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second. ( . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)

This method of test requires a test equipment not generally found in the service trade.

##### b) Leakage Current Check

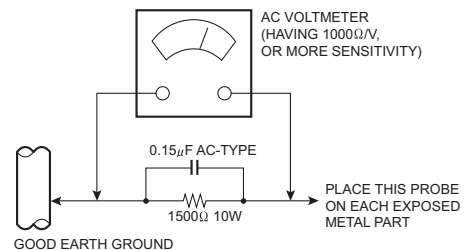
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

##### Alternate Check Method

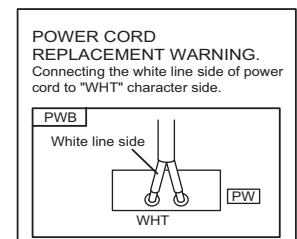
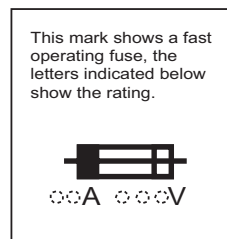
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 $\Omega$  per volt or more sensitivity in the following manner. Connect a 1500 $\Omega$  10W resistor paralleled by a 0.15 $\mu$ F AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



#### (11) High voltage hold down circuit check.

After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly. See item "How to check the high voltage hold down circuit".



## SECTION 2

### SPECIFIC SERVICE INSTRUCTIONS

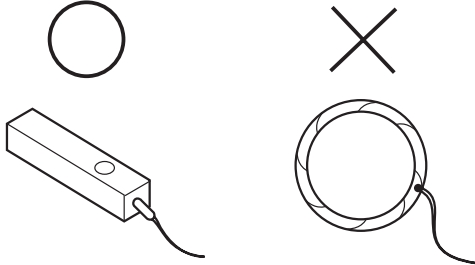
#### 2.1 DEMAGNETIZATION PROCEDURE

##### 2.1.1 CAUTION

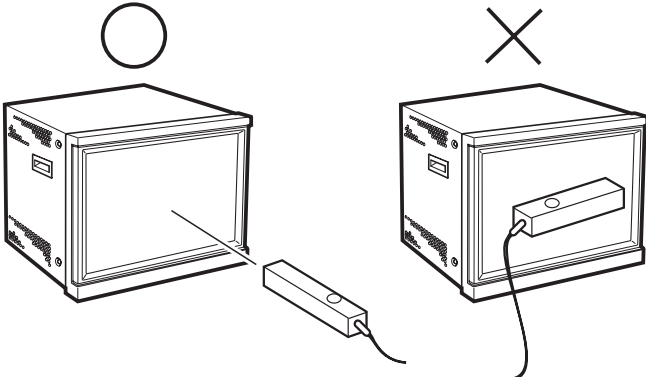
- (1) Use a rod-type demagnetization coil.

##### NOTE:

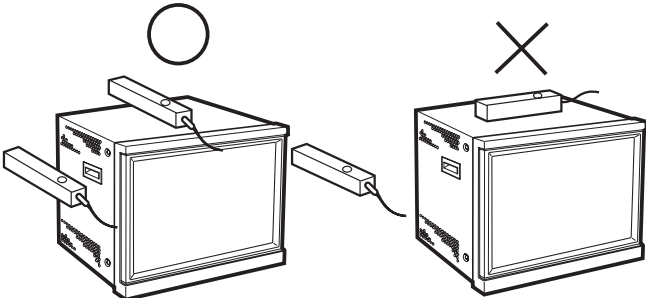
Never use a ring-shaped demagnetization coil.



- (2) Keep the demagnetization coil at a distance of more than 1.5 cm from the CRT screen and the main unit during use.
- (3) When demagnetizing the CRT screen, hold the demagnetization coil perpendicularly to the CRT screen.

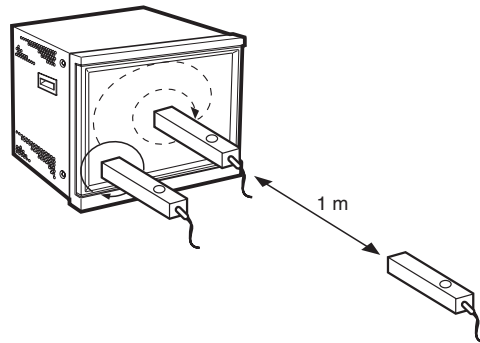


- (4) When demagnetizing the outer cabinet of the unit, use the demagnetization coil in the orientation as shown below.



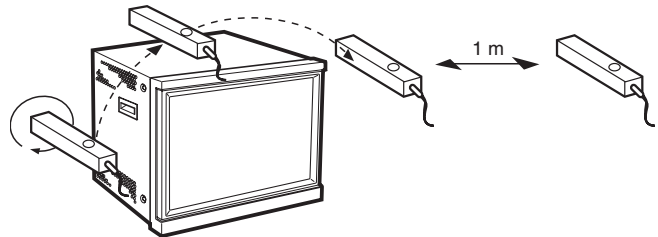
#### 2.1.2 DEMAGNETIZING THE CRT SCREEN

- (1) While holding the power button of the demagnetization coil, move it to approach the CRT screen area that has color irregularities. (Keep the demagnetization coil at a distance of more than 1.5 cm from the screen.)
- (2) From the area with the color irregularities, move the demagnetization coil as if drawing a spiral toward the center of the CRT screen.
- (3) Move the demagnetization coil slowly away from the center of the CRT screen.
- (4) When the demagnetization coil comes to about 1 m from the CRT screen, release the demagnetization coil power button.
- (5) If the color irregularities are still observed, repeat the above steps once more.



#### 2.1.3 DEMAGNETIZING THE OUTER CABINET OF THE UNIT

- (1) While holding the power button of the demagnetization coil, move it to approach the outer cabinet of the unit. (Keep the demagnetization coil at a distance of more than 1.5 cm from the cabinet.)
- (2) Keep the demagnetization coil in the same orientation, and move it around the cabinet as if drawing a circle around the side and top panels of the unit.
- (3) Move the demagnetization coil slowly away from the outer cabinet of the unit.
- (4) When the demagnetization coil comes to about 1 m from the unit, release the power button of the demagnetization coil.



## 2.2 MAIN CPU [SIGNAL PWB : IC6805] PIN FUNCTION

Pin No.	Pin name	I/O	Function
1	P20/A16	O	Not used
2	P21/A17	O	Not used
3	P22/A18	O	Not used
4	P23/A19 IND_A	O	LED A (for Diagnosis) [ON = L]
5	P24/A20 IND_B	O	LED B (for Diagnosis) [ON = L]
6	P25/A21 IND_C	O	LED C (for Diagnosis) [ON = L]
7	P26/A22 IND_D	O	LED D (for Diagnosis) [ON = L]
8	P27/A23	O	Not used
9	P30/ALE	O	Not used
10	P31/RDX	O	Not used
11	Vss (GND)	-	GND
12	P32/WRLX (RTS)	O	Not used
13	P33/WRHX (CTS)	O	Not used
14	P34/HRQ (ID_SET)	O	Auto setting for ID number control [Control = L]
15	P35/HAKX (DCD)	O	Not used
16	P36/RDY (TXD_ENA)	O	Transmission for RS-485 command control [Control = L]
17	P37/CLK (RI)	O	Not used
18	P40/SCK	O	Clock for flash memory writing
19	P41/SOT (RXD)	O	Data receive for flash memory writing
20	P42/SIN (TXD)	I	Data transmission for flash memory writing
21	P43/SCK1 (SCLK)	O	Not used
22	P44/SOT1 (SOUT)	O	Not used
23	Vcc (5V)	I	5V power supply
24	P45/SIN1	O	Not used
25	P46/ADTG	O	Not used
26	P47/SCK0	O	Not used
27	C	-	Capacitor for power supply stabilization (0.1μF)
28	P50/SDA0/SOT0	I/O	Data for Inter IC (serial) bus : Deflection IC etc.
29	P51/SCL0/SIN0	O	Clock for Inter IC (serial) bus : Deflection IC etc.
30	P52/SDA1	I/O	Data for Inter IC (serial) bus : Signal IC etc.
31	P53/SCL1	O	Clock for Inter IC (serial) bus : Signal IC etc.
32	P54/SDA2	I/O	Data for Inter IC (serial) bus : main memory
33	P55/SCL2	O	Clock for Inter IC (serial) bus : main memory
34	AVcc	I	5V power supply
35	AVRH	-	GND
36	AVRL	-	GND
37	AVss	-	GND
38	P60/AN0	O	Not used
39	P61/AN1	O	Not used
40	P62/AN2	O	Not used
41	P63/AN3	O	Not used
42	Vss	-	GND
43	P64/AN4	O	Not used
44	P65/AN5	O	Not used
45	P66/AN6	O	Not used
46	P67/AN7	O	Not used
47	V.SYNC P70/IRQ0	I	V.sync
48	REQ_DET P71/IRQ1	O	Not used
49	MD0	I	Mode setting for flash memory writing [Setting = H]
50	MD1	I	Mode setting for flash memory writing [Setting = H]
51	MD2	I	Mode setting for flash memory writing [Setting = L]
52	HSTX	I	Hardware stand-by [Stand-by = L]
53	TARRY_R P72/IRQ2	O	TALLY LED (red) control [ON = H]
54	P73/IRQ3	O	Not used
55	OCF P74/IRQ4	I	Over-current deetecion [Detect = H]
56	X_RAY P75/IRQ5	I	X-ray deetecion [Detect = L]

Pin No.	Pin name	I/O	Function
57	INP_A/B_SEL P76/IRQ6	O	INPUT A / B select [INPUT A = H, INPUT B = L]
58	P77/IRQ7	O	Not used
59	H SYNC P80/TIN0	I	H.sync
60	P81/TIN1	O	Not used
61	VIDEO_SLOT_SEL P82/TOT0	O	Video/Unit select [Video = H, Unit = L]
62	DEG_SN P83/TOT1	O	demagnetization coil / S/N coil select control [demagnetization coil = H, S/N coil = L]
63	REMOTE P84/IN0	I	Remote control input
64	P85/IN1	O	Not used
65	P86/IN2	O	Not used
66	P87/IN3	O	Not used
67	P90/OUT0	O	Not used
68	V_OFF P91/OUT1	O	Single horizontal line switch [Display = H]
69	P92/PPG0	O	Not used
70	V_OFF_DET P93/PPG1	I	Neck-bleak prevention detection [Detect = H]
71	P94/PPG2	O	Not used
72	P95/PPG3	O	Not used
73	TALLY_G P96/PPG4	O	TALLY LED (green) control [ON = H]
74	SYNC_SEL P97/PPG5	O	EXT/INT ext. sync select [EXT = L, INT = H]
75	COMB_SW PA0/OUT2	O	Comb filter select [Color =H, White/black = L]
76	PA1/OUT3	O	Not used
77	RESET RSTX	I	Reset
78	POWER PA2	O	Power control [ON = H]
79	PA3	O	Not used
80	PA4/CKOT	O	Not used
81	Vss	-	GND
82	X0	I	System clock osillation (crystal) : 16MHz
83	X1	I	System clock osillation (crystal) : 4MHz
84	Vcc	I	5V power supply
85	FLASH P00/AD00	I	Program wake-up for flash memory writing
86	FLASH2 P01/AD01	I	External pull-up for flash memory writing
87	P02/AD02	O	Not used
88	SCREENS_CHK P03/AD03	O	Screen check select [RGB single color = L]
89	UNIT_DET P04/AD04	I	Unit detection [Unit detect = L]
90	P05/AD05	O	Not used
91	SIN0 P06/AD06	I	Key input data 0
92	SIN1 P07/AD07	I	Key input data 1
93	SIN2 P10/AD08	I	Key input data 2
94	SIN3 P11/AD09	O	Not used
95	I2C STOP P12/AD10	I	Inter IC (serial) bus stop [Stop = H]
96	SCAN0 P13/AD11	O	Key input scan 0
97	SCAN1 P14/AD12	O	Key input scan 1
98	SCAN2 P15/AD13	O	Key input scan 2
99	SCAN3 P16/AD14	O	Key input scan 3
100	SCAN4 P17/AD15	O	Key input scan 4

## SECTION 3

### DISASSEMBLY

#### 3.1 DISASSEMBLY PROCEDURE

##### CAUTIONS:

- Some parts are active even after the main power switch is set to OFF.
- Be sure to unplug the power cord from the power outlet before proceeding with disassembly or assembly of the unit.

##### 3.1.1 REMOVING THE TOP COVER

- (1) Remove the 4 screws [A] and 4 screws [B].
- (2) Remove the TOP COVER.

##### 3.1.2 REMOVING THE SPEAKER

- Remove the TOP COVER.
  - (1) Remove the SPEAKER.

##### 3.1.3 REMOVING THE DC PWB

- Remove the TOP COVER.
  - (1) Remove the 8 screws [C].
  - (2) Remove the REAR COVER.
  - (3) Remove the 2 screws [D].
  - (4) Remove the PWB BASE (with DC PWB affixed on PWB BASE).
  - (5) Remove the 4 screws [E].
  - (6) Remove the DC PWB from the PWB BASE.

##### 3.1.4 REMOVING THE REAR PANEL AND THE TERMINAL BRACKET

- Remove the TOP COVER.
- Remove the DC PWB.
  - (1) Remove the 4 screws [F].
  - (2) Remove the REAR PANEL.
  - (3) Remove the 3 screws [G], 1 screw [H], 1 screw [J], 1 screw [K] and 1 screw [L].
  - (4) Remove the AC INLET and the POWER SWITCH.
  - (5) Remove the TERMINAL BRACKET.

##### 3.1.5 REMOVING THE BOTTOM COVER

- Remove the TOP COVER.
- Remove the DC PWB.
- Remove the REAR PANEL and the TERMINAL BRACKET.
  - (1) Remove the 2 screws [M].
  - (2) Remove the BOTTOM COVER.

##### 3.1.6 REMOVING THE MAIN PWB, SIGNAL PWB, LINE FILTER PWB AND FRONT CONTROL PWB

- Remove the TOP COVER.
- Remove the DC PWB.
- Remove the REAR PANEL and the TERMINAL BRACKET.
- Remove the BOTTOM COVER.
  - (1) Remove the 2 screws [N] and 4 claws [P].
  - (2) Remove the MAIN PWB (with SIGNAL PWB and LINE FILTER PWB affixed on the MAIN PWB).
  - (3) Remove the SIGNAL PWB from the MAIN PWB (Only the connector connection).
  - (4) Remove the LINE FILTER PWB from the MAIN PWB (Only the connector connection).
  - (5) Remove the FRONT CONTROL PWB from the CHASSIS BASE.

##### 3.1.7 REMOVING THE TALLY PWB

- Remove the TOP COVER.
  - (1) Remove the 2 claws [R].
  - (2) Remove the TALLY PWB.

##### 3.1.8 CHECKING THE MAIN PWB

- Remove the TOP COVER.
- Remove the REAR PANEL and the TERMINAL BRACKET.
- Remove the BOTTOM COVER.
  - (1) Put the main chassis assembly in service position by placing the FRONT PANEL side facing downward.
  - (2) The electrical check for the MAIN PWB is now ready.

##### CAUTIONS:

- Before turning on power, make sure that the CRT earth wire and other connectors are properly connected.
- The unit is unstable when it is placed on its side so please be careful that it does not topple over during work.
- Use insulating materials, if necessary, to avoid possible electrical contacts between PWBs and expose terminals, etc.

##### 3.1.9 NOTE CONCERNING WIRE CLAMPING

- Be sure to reconnect the wire clamps that have been disconnected during the above work.



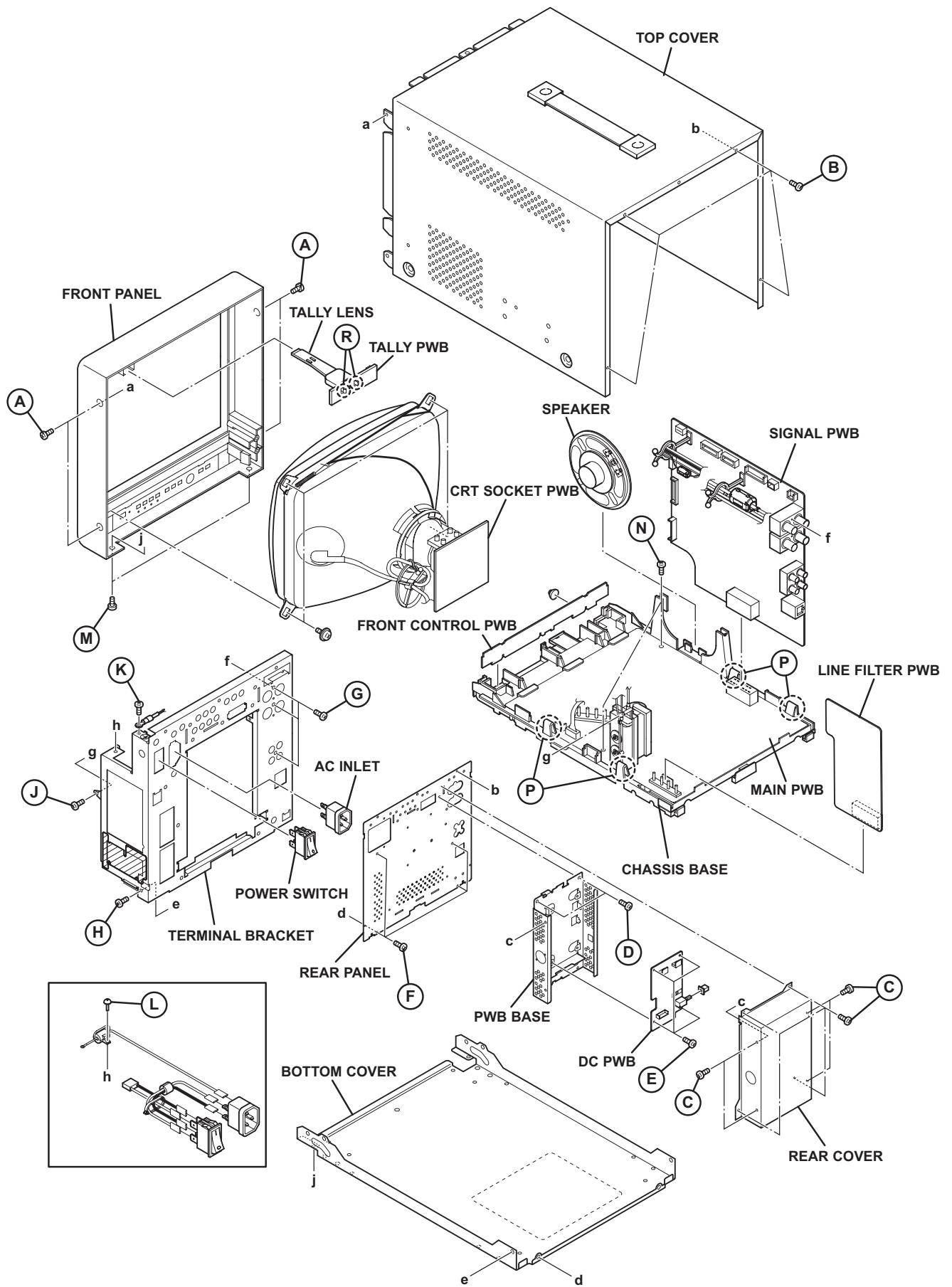


Fig.1

## 3.2 MEMORY IC REPLACEMENT

- This model uses the memory IC.
- This memory IC stores data for proper operation of the video and deflection circuits.
- When replacing, be sure to use an IC containing this (initial value) data.

### 3.2.1 MEMORY IC REPLACEMENT PROCEDURE

#### 1. Power off

Switch off the power and disconnect the power plug from the AC outlet.

#### 2. Replace the memory IC

Be sure to use the memory IC written with the initial setting values.

#### 3. Power on

Connect the power plug to the AC outlet and switch on the power.

- Adjust the items that can be adjusted on the front panel key.  
(Some items cannot be adjusted unless the required signal is input.)

- Check the SET-UP MENU and set its items as required.

- Press the [▼] key and the [CHROMA/PHASE] key simultaneously, and the SET-UP MENU screen of Fig.2 will be displayed.
- Check the items in the SET-UP MENU by comparing them with the data in the table on page 1-11. If any items are set differently, set it as required.
- Press the [MENU] key to exit the SET-UP MENU screen.

- Check the MAIN MENU and set its items as required.

- Press the [MENU] key to display the MAIN MENU screen (Fig.3).
- Check the items in the MAIN MENU by comparing them with the data in the table on page 1-11. If any items are set differently, set it as required.
- Press the [MENU] key to exit the MAIN MENU screen.

- Check the initial setting values of the items in the SERVICE MENU (Fig.4). If any items are set differently, set it as required.  
For the setting method and the initial setting value, see the corresponding pages for "SERVICE ADJUSTMENT" in this manual.

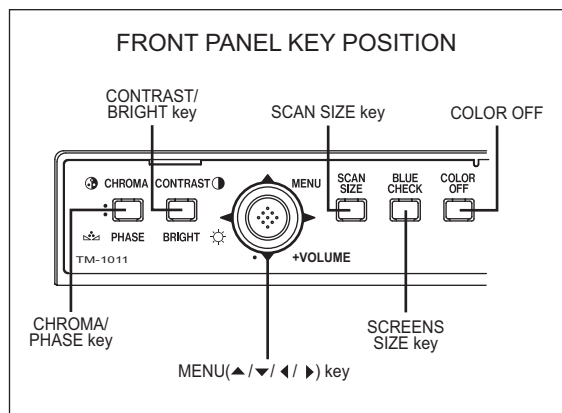


Fig.1

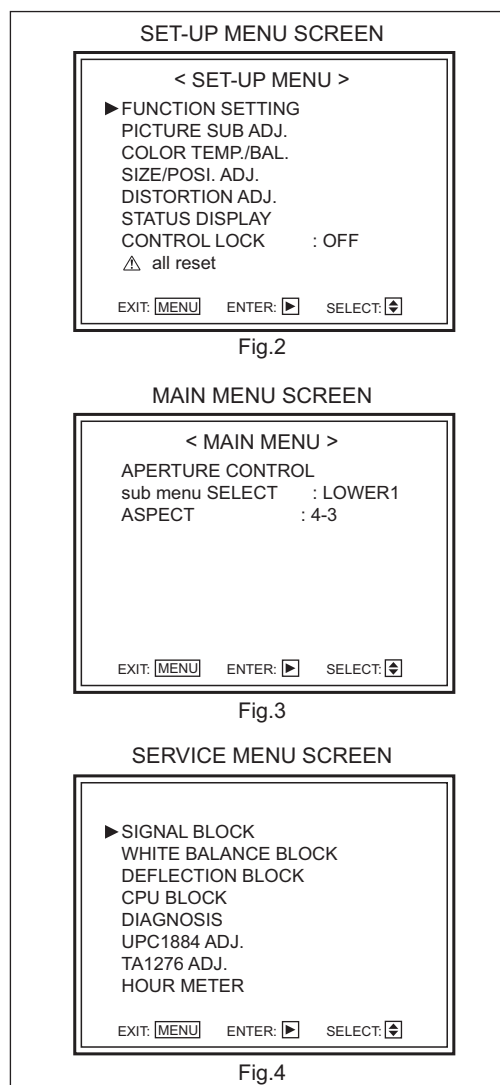


Fig.4

Setting items	Settings	Item No.
SIGNAL BLOCK	Adjust	SA ~ ST
WHITE BALANCE BLOCK	Adjust	WA ~ WX
DEFLECTION BLOCK	Adjust	DA ~ DZ, D1 ~ D3
CPU BLOCK	Adjust	CA ~ CE
UPC1884 ADJ.	Fixed	---
TA1276 ADJ.	Fixed	---
HOUR METER	Fixed	---
UPDATE CPU PROGRAM	Fixed	---
EEPROM VERSION	Fixed	---

### 3.2.2 FACTORY SETTING POSITION

#### 3.2.2.1 SETTING OF FRONT PANEL KEY

Setting item	Setting value
MAIN POWER (REAR)	OFF
SUB POWER (STAND-BY)	OFF
DC POWER	OFF
INPUT SELECT	INPUT A
CONTRAST	0
BRIGHT	0
CHROMA	0
PHASE	0
VOLUME	10
MUTE	OFF
UNDER SCAN	OFF
BLUE CHECK	OFF
COLOR OFF	OFF

#### 3.2.2.2 SETTING OF SET-UP MENU SCREEN

##### (1) FUNCTION SETTING

Setting item	Setting value	Description
COLOR SYSTEM	AUTO	Input NTSC / PAL signal
TALLY SELECT	GREEN	
REMOTE SYSTEM		
CONTROL FORM	MAKE	
PORT F1	INP.A	
PORT F2	INP.B	
PORT F3	COLOR OFF	
PORT F4	ASPECT	
PORT F5	TALLY	
PORT F6	STATUS	
HOUR METER × 100h	000	

##### (2) PICTURE SUB ADJ.

Setting item	Setting value	Description
CONTRAST	00	
BRIGHT	00	
CHROMA	00	
PHASE	00	Input NTSC signal

##### (3) COLOR TEMP./BAL.

Setting item	Setting value	Description
COLOR TEMP.	LOW	
BLUE DRIVE	00	
RED DRIVE	00	
GREEN CUTOFF	00	
BLUE CUTOFF	00	
RED CUTOFF	00	

##### (4) SIZE/POSI. ADJ.

Setting item	Setting value	Description
H SIZE	00	
H POSITION	00	
V SIZE	00	

Setting item	Setting value	Description
V POSITION	00	

##### (5) DISTORTION ADJ.

Setting item	Setting value	Description
PARALLELOGRAM	00	
TRAPEZOID	00	
ROTATION	00	

##### (6) STATUS DISPLAY

Setting item	Setting value	Description
STATUS DISPLAY	AUTO	

##### (7) CONTROL LOCK

Setting item	Setting value	Description
CONTROL LOCK	OFF	

#### 3.2.2.3 SETTING OF MAIN MENU SCREEN

Setting item	Setting value
APERTURE CONTROL	
LEVEL	04
CONTROL FREQ.	LOW
SUB MENU POSI.	LOWER1
ASPECT	4:3

### 3.3 REPLACEMENT OF CHIP COMPONENT

#### 3.3.1 CAUTIONS

- (1) Avoid heating for more than 3 seconds.
- (2) Do not rub the electrodes and the resist parts of the pattern.
- (3) When removing a chip part, melt the solder adequately.
- (4) Do not reuse a chip part after removing it.

#### 3.3.2 SOLDERING IRON

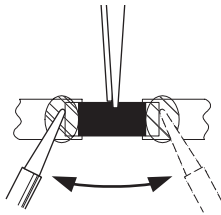
- (1) Use a high insulation soldering iron with a thin pointed end of it.
- (2) A 30w soldering iron is recommended for easily removing parts.

#### 3.3.3 REPLACEMENT STEPS

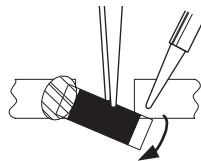
##### 1. How to remove Chip parts

###### [Resistors, capacitors, etc.]

- (1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.



- (2) Shift with the tweezers and remove the chip part.

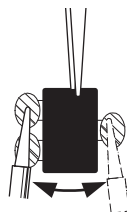


###### [Transistors, diodes, variable resistors, etc.]

- (1) Apply extra solder to each lead.



- (2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.



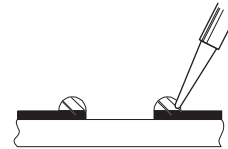
#### NOTE :

After removing the part, remove remaining solder from the pattern.

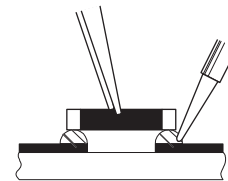
##### 2. How to install Chip parts

###### [Resistors, capacitors, etc.]

- (1) Apply solder to the pattern as indicated in the figure.

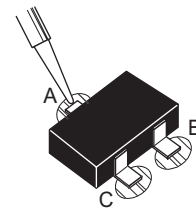


- (2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

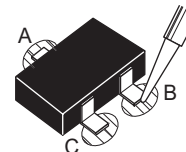


###### [Transistors, diodes, variable resistors, etc.]

- (1) Apply solder to the pattern as indicated in the figure.
- (2) Grasp the chip part with tweezers and place it on the solder.
- (3) First solder lead **A** as indicated in the figure.



- (4) Then solder leads **B** and **C**.



## SECTION 4 ADJUSTMENT

### 4.1 ADJUSTMENT PREPARATION

- (1) There are 2 ways of adjusting this unit : One is the MENU as on screen display and the other is the conventional method using adjustment parts and components.
- (2) The adjustment using the MENU as on screen display is made on the basis of the initial setting values. The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
- (3) Make sure that connection is correctly made AC to AC power source.
- (4) Turn on the power of the unit and measuring instruments for warning up for at least 30 minutes before starting adjustments.
- (5) If the receive or input signal is not specified, use the most appropriate signal for adjustment.
- (6) Never touch the parts (such as variable resistors, transformers and condensers) not shown in the adjustment items of this service adjustment.

### 4.2 PRESET SETTING BEFORE ADJUSTMENTS

For the functions other than those that should be set before each adjustment, reset them to the initial setting values according to the table on page 1-11 before proceeding to the adjustment. Correct adjustments will not be possible unless the values of the functions are reset to the initial setting values.

### 4.3 MEASURING INSTRUMENT AND FIXTURES

- DC voltmeter (Digital voltmeter)
- High voltage voltmeter
- Oscilloscope
- Color analyzer (Color temperature meter)
- Signal generator (Pattern generator)  
[NTSC, PAL]

### 4.4 STANDARD SIGNAL FOR ADJUSTMENT

Refer to the following figure for Standard signal for adjustment.

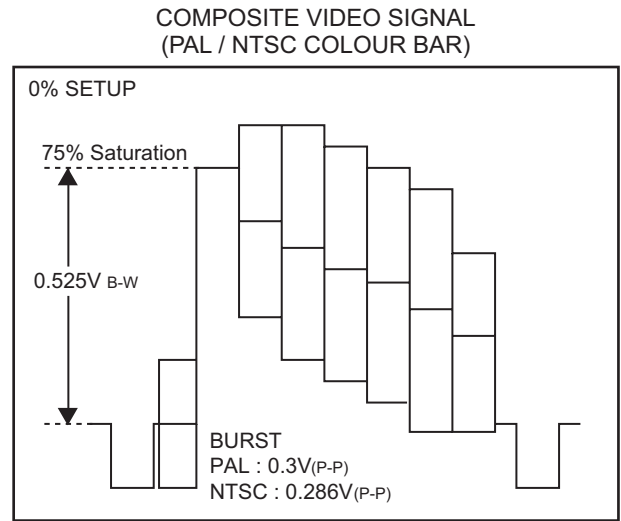


Fig.1

### 4.5 ADJUSTMENT ITEMS

- B1 VOLTAGE ADJUSTMENT
- CRT HIGH VOLTAGE CHECK
- X-RAY PROTECTOR OPERATION CHECK
- FOCUS / CONVERGENCE ADJUSTMENT
- PURITY CORRECTION ADJUSTMENT
- VIDEO CIRCUIT ADJUSTMENTS
  - WHITE BALANCE LOW LIGHT adjustment
  - WHITE BALANCE HIGH LIGHT adjustment  
(HIGH : D9300 / LOW : D6500)
  - SUB BRIGHT HIGH adjustment
  - SUB BRIGHT LOW adjustment
  - SUB CONTRAST adjustment
  - SUB COLOR adjustment
  - SUB PHASE adjustment
- DEFLECTION CIRCUIT ADJUSTMENTS
- NORMAL SCAN MODE
  - H.POSITION / H.SIZE (VIDEO adjustment)
  - V.POSITION (VIDEO) adjustment
  - V.LINEARITY adjustment
  - V.SIZE (4:3) adjustment
- UNDER SCAN MODE
  - H.POSITION / H.SIZE / PARALLEL / TRAPEZIUM  
(VIDEO) adjustment
  - V.SIZE (4:3) adjustment



## 4.6 BASIC OPERATION OF SERVICE MODE

### 4.6.1 SERVICE MENU ITEMS

The SERVICE MENU is roughly classified according to set-up and adjustments, and is divided into the following items.  
Do not alter the values of unnecessary items.

Setting item	Setting contents
SIGNAL BLOCK	Video system setting
WHITE BALANCE BLOCK	White balance setting
DEFLECTION BLOCK	Deflection system setting
CPU BLOCK	Main CPU system setting [Other than C[C39] do not adjust]
DIAGNOSIS	Self - check be displayed
UPC1884 ADJ.	DEF processor system setting [Do not adjust]
TA1276 ADJ.	RGB processor system setting [Do not adjust]
HOUR METER	HOUR METER be displayed
UPDATE CPU PROGRAM	CPU Ver. be displayed
EEPROM VERSION	EEPROM Ver. be displayed

### 4.6.2 HOW TO ENTER THE SERVICE MENU

- Press the [▼] key and [COLOR OFF] key simultaneously.  
The  mark appears on the screen.
- Before the  mark disappears (within 5 seconds after it appears), press the [▼] key and [CHROMA/PHASE] key simultaneously.  
The warning message "**Please don't touch!**" appears on the screen.
- Before the warning message disappears (within 5 seconds after it appears), press the [▶] key.  
The SERVICE MENU appears on the display.

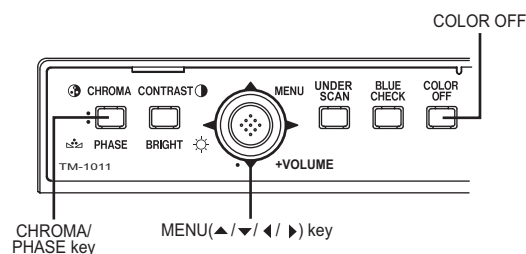
### 4.6.3 SETTING THE SERVICE MENU ITEMS

- With the SERVICE MENU displayed, press [▼] key to select the item to be adjusted, then press [▶] key to enter the SUB MENU.
- With the SUB MENU displayed, press [▼] key to select the item to be adjusted, then press [▶] key to enter the setting item screen.
- Set the adjustment item by varying it with the [◀▶] key and [▲▼] key.  
Changed setting value is memorized when it was adjusted.

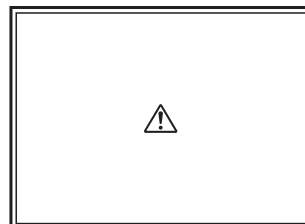
### 4.6.4 HOW TO EXIT THE SERVICE MENU

- After completing the adjustment of an item, press the [MENU] key to return to the SUB MENU.
- Press the [MENU] key again to return to the SERVICE MENU.
- Press the [MENU] key again to return to the normal screen.

#### FRONT PANEL BUTTON POSITION



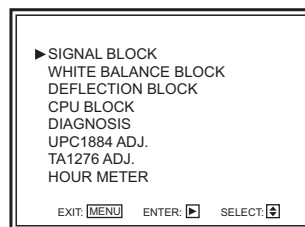
#### WARNING MARK



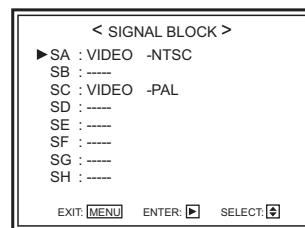
#### WARNING MESSAGE



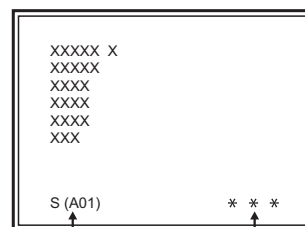
#### SERVICE MENU SCREEN



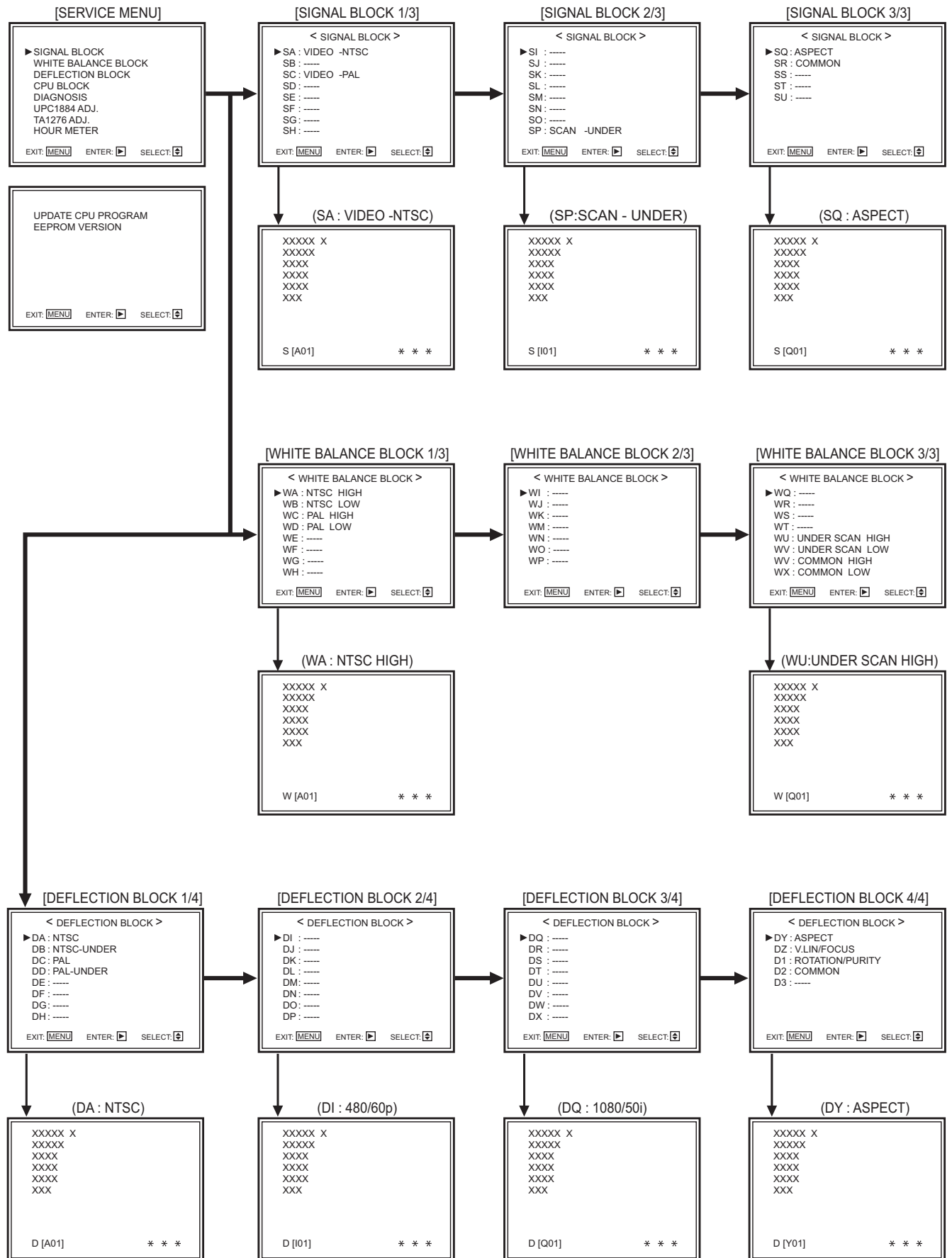
#### SUB MENU SCREEN

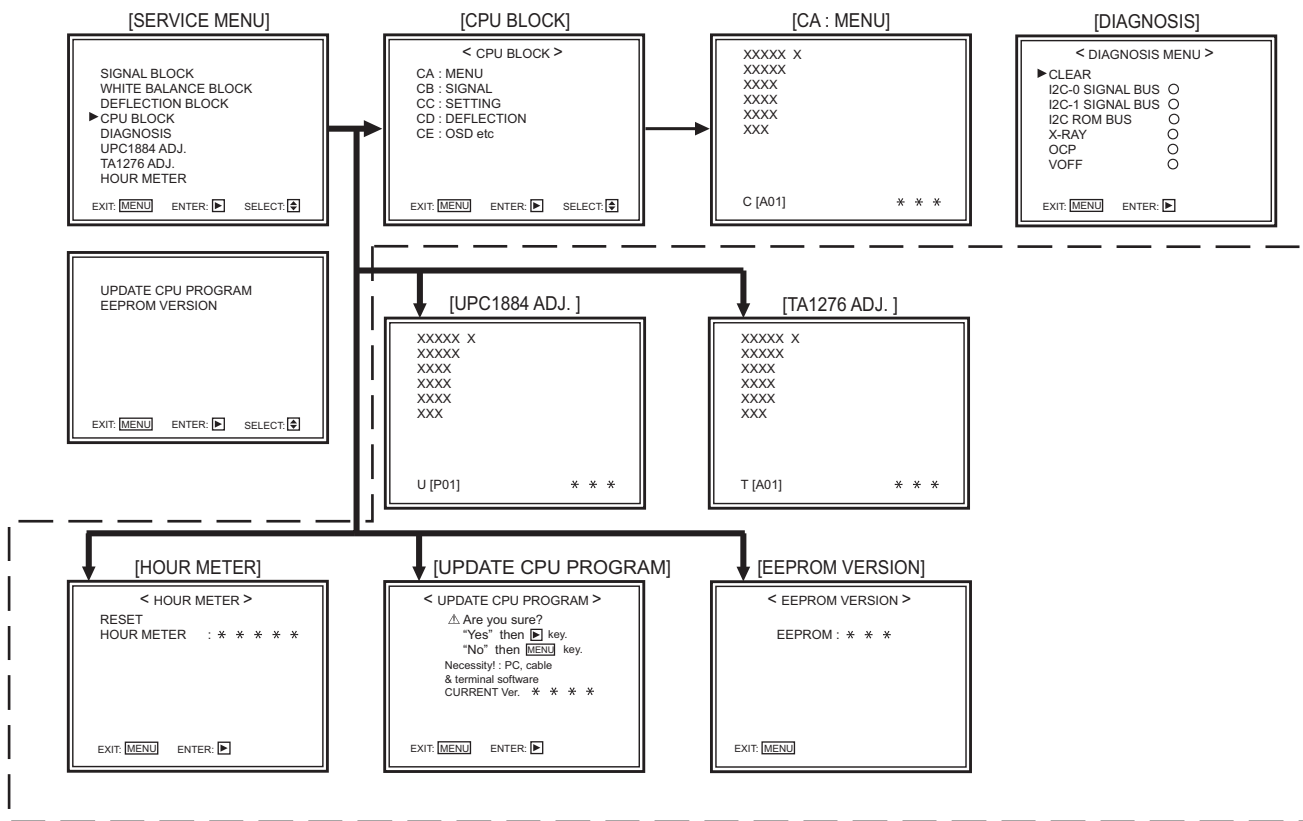


#### SETTING ITEM SCREEN



#### 4.6.5 SERVICE MENU FLOW CHART







#### 4.7 INITIAL SETTING VALUES IN THE SERVICE MENU

- The "initial values" serve only as an indication rough standard and therefore the values with which optimal display can be achieved may be different from the default values. But, don't change the values that are not written in "ADJUSTMENT PROCEDURE". They are fixed values.

##### 4.7.1 SIGNAL BLOCK (\*Item is not used)

Item No.	Item name	Variable range	Setting value
SA [VIDEO-NTSC]			
S[A01]	CONTRAST	-064 ~ +063	000
S[A02]	BRIGHT HIGH	-128 ~ +127	000
S[A03]	CHROMA	-064 ~ +063	000
S[A04]	PHASE	-064 ~ +063	000
S[A05]	APERTURE	-064 ~ +063	+013
S[A06]	BRIGHT LOW	-128 ~ +127	000
S[A07]	Y DL	000 ~ 001	000
S[A08]	R-Y PHASE	000 ~ 003	000
S[A09]	R/B GAIN	000 ~ 003	000
S[A10]	G-Y PHASE	000 ~ 003	000
S[A11]	G/B GAIN	000 ~ 003	001
SB [-----] *Not used			
S[B01]	CONTRAST	-064 ~ +063	000
S[B02]	BRIGHT HIGH	-128 ~ +127	000
S[B03]	CHROMA	-064 ~ +063	000
S[B04]	PHASE	-064 ~ +063	000
S[B05]	APERTURE	-064 ~ +063	000
S[B06]	BRIGHT LOW	-128 ~ +127	000
S[B07]	Y DL	000 ~ 001	000
S[B08]	R-Y PHASE	000 ~ 003	000
S[B09]	R/B GAIN	000 ~ 003	000
S[B10]	G-Y PHASE	000 ~ 003	000
S[B11]	G/B GAIN	000 ~ 003	001
SC [VIDEO-PAL]			
S[C01]	CONTRAST	-064 ~ +063	000
S[C02]	BRIGHT HIGH	-128 ~ +127	000
S[C03]	CHROMA	-064 ~ +063	+005
S[C04]	PHASE	-064 ~ +063	000
S[C05]	APERTURE	-064 ~ +063	+013
S[C06]	BRIGHT LOW	-128 ~ +127	000
S[C07]	Y DL	000 ~ 001	000
S[C08]	R-Y PHASE	000 ~ 003	000
S[C09]	R/B GAIN	000 ~ 003	000
S[C10]	G-Y PHASE	000 ~ 003	000
S[C11]	G/B GAIN	000 ~ 003	001
SD [-----] *Not used			
S[D01]	CONTRAST	-064 ~ +063	000
S[D02]	BRIGHT HIGH	-128 ~ +127	000
S[D03]	CHROMA	-064 ~ +063	000
S[D04]	PHASE	-064 ~ +063	000
S[D05]	APERTURE	-064 ~ +063	000
S[D06]	BRIGHT LOW	-128 ~ +127	000
S[D07]	Y DL	000 ~ 001	000
S[D08]	R-Y PHASE	000 ~ 003	000
S[D09]	R/B GAIN	000 ~ 003	000
S[D10]	G-Y PHASE	000 ~ 003	000
S[D11]	G/B GAIN	000 ~ 003	001
SE [-----] *Not used			
S[E01]	CONTRAST	-064 ~ +063	+003
S[E02]	BRIGHT HIGH	-128 ~ +127	000
S[E03]	CHROMA	-064 ~ +063	+006
S[E04]	PHASE	-064 ~ +063	000
S[E05]	APERTURE	-064 ~ +063	000
S[E06]	BRIGHT LOW	-128 ~ +127	000
S[E07]	Y DL	000 ~ 001	000
S[E08]	R-Y PHASE	000 ~ 003	000
S[E09]	R/B GAIN	000 ~ 003	002
S[E10]	G-Y PHASE	000 ~ 003	000
S[E11]	G/B GAIN	000 ~ 003	003
SF [-----] *Not used			
S[F01]	CONTRAST	-064 ~ +063	+003
S[F02]	BRIGHT HIGH	-128 ~ +127	000
S[F03]	CHROMA	-064 ~ +063	+006
S[F04]	PHASE	-064 ~ +063	000
S[F05]	APERTURE	-064 ~ +063	000

Item No.	Item name	Variable range	Setting value
S[F06]	BRIGHT LOW	-128 ~ +127	000
S[F07]	Y DL	000 ~ 001	000
S[F08]	R-Y PHASE	000 ~ 003	000
S[F09]	R/B GAIN	000 ~ 003	002
S[F10]	G-Y PHASE	000 ~ 003	002
S[F11]	G/B GAIN	000 ~ 003	003
SG [-----] *Not used			
S[G01]	CONTRAST	-064 ~ +063	000
S[G02]	BRIGHT HIGH	-128 ~ +127	000
S[G03]	CHROMA	-064 ~ +063	000
S[G04]	PHASE	-064 ~ +063	000
S[G05]	APERTURE	-064 ~ +063	000
S[G06]	BRIGHT LOW	-128 ~ +127	000
S[G07]	Y DL	000 ~ 001	000
S[G08]	R-Y PHASE	000 ~ 003	000
S[G09]	R/B GAIN	000 ~ 003	002
S[G10]	G-Y PHASE	000 ~ 003	002
S[G11]	G/B GAIN	000 ~ 003	128
SH [-----] *Not used			
S[H01]	CONTRAST	-064 ~ +063	000
S[H02]	BRIGHT HIGH	-128 ~ +127	000
S[H03]	CHROMA	-064 ~ +063	000
S[H04]	PHASE	-064 ~ +063	000
S[H05]	APERTURE	-064 ~ +063	000
S[H06]	BRIGHT LOW	-128 ~ +127	000
S[H07]	Y DL	000 ~ 001	000
S[H08]	R-Y PHASE	000 ~ 003	000
S[H09]	R/B GAIN	000 ~ 003	002
S[H10]	G-Y PHASE	000 ~ 003	002
S[H11]	G/B GAIN	000 ~ 003	003
SI [-----] *Not used			
S[I01]	CONTRAST	-064 ~ +063	-005
S[I02]	BRIGHT HIGH	-128 ~ +127	000
S[I03]	CHROMA	-064 ~ +063	+006
S[I04]	PHASE	-064 ~ +063	-002
S[I05]	APERTURE	-064 ~ +063	000
S[I06]	BRIGHT LOW	-128 ~ +127	000
S[I07]	Y DL	000 ~ 001	000
S[I08]	R-Y PHASE	000 ~ 003	000
S[I09]	R/B GAIN	000 ~ 003	003
S[I10]	G-Y PHASE	000 ~ 003	002
S[I11]	G/B GAIN	000 ~ 003	000
SJ [-----] *Not used			
S[J01]	CONTRAST	-064 ~ +063	-005
S[J02]	BRIGHT HIGH	-128 ~ +127	000
S[J03]	CHROMA	-064 ~ +063	+006
S[J04]	PHASE	-064 ~ +063	-002
S[J05]	APERTURE	-064 ~ +063	000
S[J06]	BRIGHT LOW	-128 ~ +127	000
S[J07]	Y DL	000 ~ 001	000
S[J08]	R-Y PHASE	000 ~ 003	000
S[J09]	R/B GAIN	000 ~ 003	003
S[J10]	G-Y PHASE	000 ~ 003	002
S[J11]	G/B GAIN	000 ~ 003	000
SK [-----] *Not used			
S[K01]	CONTRAST	-064 ~ +063	-005
S[K02]	BRIGHT HIGH	-128 ~ +127	000
S[K03]	CHROMA	-064 ~ +063	+006
S[K04]	PHASE	-064 ~ +063	-002
S[K05]	APERTURE	-064 ~ +063	000
S[K06]	BRIGHT LOW	-128 ~ +127	000
S[K07]	Y DL	000 ~ 001	000
S[K08]	R-Y PHASE	000 ~ 003	000
S[K09]	R/B GAIN	000 ~ 003	003
S[K10]	G-Y PHASE	000 ~ 003	002
S[K11]	G/B GAIN	000 ~ 003	000

Item No.	Item name	Variable range	Setting value
SL [-----] *Not used			
S[L01]	CONTRAST	-064 ~ +063	-005
S[L02]	BRIGHT HIGH	-128 ~ +127	000
S[L03]	CHROMA	-064 ~ +063	+006
S[L04]	PHASE	-064 ~ +063	-002
S[L05]	APERTURE	-064 ~ +063	000
S[L06]	BRIGHT LOW	-128 ~ +127	000
S[L07]	Y DL	000 ~ 001	000
S[L08]	R-Y PHASE	000 ~ 003	000
S[L09]	R/B GAIN	000 ~ 003	003
S[L10]	G-Y PHASE	000 ~ 003	002
S[L11]	G/B GAIN	000 ~ 003	000
SM [-----] *Not used			
S[M01]	CONTRAST	-064 ~ +063	-005
S[M02]	BRIGHT HIGH	-128 ~ +127	000
S[M03]	CHROMA	-064 ~ +063	+006
S[M04]	PHASE	-064 ~ +063	-002
S[M05]	APERTURE	-064 ~ +063	000
S[M06]	BRIGHT LOW	-128 ~ +127	000
S[M07]	Y DL	000 ~ 001	000
S[M08]	R-Y PHASE	000 ~ 003	000
S[M09]	R/B GAIN	000 ~ 003	003
S[M10]	G-Y PHASE	000 ~ 003	002
S[M11]	G/B GAIN	000 ~ 003	000
SN [-----] *Not used			
S[N01]	CONTRAST	-064 ~ +063	000
S[N02]	BRIGHT HIGH	-128 ~ +127	000
S[N03]	CHROMA	-064 ~ +063	+006
S[N04]	PHASE	-064 ~ +063	-002
S[N05]	APERTURE	-064 ~ +063	000
S[N06]	BRIGHT LOW	-128 ~ +127	000
S[N07]	Y DL	000 ~ 001	000
S[N08]	R-Y PHASE	000 ~ 003	000
S[N09]	R/B GAIN	000 ~ 003	003
S[N10]	G-Y PHASE	000 ~ 003	002
S[N11]	G/B GAIN	000 ~ 003	000
SO [-----] *Not used			
S[O01]	CONTRAST	-064 ~ +063	000
S[O02]	BRIGHT HIGH	-128 ~ +127	000
S[O03]	BRIGHT LOW	-128 ~ +127	000
SP [SCAN-UNDER]			
S[P01]	NTSC CONTRAST	-064 ~ +063	-010
S[P02]	NTSC BRIGHT HIGH	-128 ~ +127	000
S[P03]	NTSC BRIGHT LOW	-128 ~ +127	000
*S[P04]	NTSC-Y/C CONTRAST	-064 ~ +063	000
*S[P05]	NTSC-Y/C BRIGHT HIGH	-128 ~ +127	000
*S[P06]	NTSC-Y/C BRIGHT LOW	-128 ~ +127	000
S[P07]	PAL CONTRAST	-064 ~ +063	-010
S[P08]	PAL BRIGHT HIGH	-128 ~ +127	000
S[P09]	PAL BRIGHT LOW	-128 ~ +127	000
*S[P10]	PAL-Y/C CONTRAST	-064 ~ +063	000
*S[P11]	PAL-Y/C BRIGHT HIGH	-128 ~ +127	000
*S[P12]	PAL-Y/C BRIGHT LOW	-128 ~ +127	000
*S[P13]	480/60i CONTRAST	-064 ~ +063	000
*S[P14]	480/60i BRIGHT HIGH	-128 ~ +127	000
*S[P15]	480/60i BRIGHT LOW	-128 ~ +127	000
*S[P16]	576/50i CONTRAST	-064 ~ +063	000
*S[P17]	576/50i BRIGHT HIGH	-128 ~ +127	000
*S[P18]	576/50i BRIGHT LOW	-128 ~ +127	000
*S[P19]	480/60p CONTRAST	-064 ~ +063	000
*S[P20]	480/60p BRIGHT HIGH	-128 ~ +127	000
*S[P21]	480/60p BRIGHT LOW	-128 ~ +127	000
*S[P22]	576/50p CONTRAST	-064 ~ +063	000
*S[P23]	576/50p BRIGHT HIGH	-128 ~ +127	000
*S[P24]	576/50p BRIGHT LOW	-128 ~ +127	000
*S[P25]	1080/60i CONTRAST	-064 ~ +063	000
*S[P26]	1080/60i BRIGHT HIGH	-128 ~ +127	000
*S[P27]	1080/60i BRIGHT LOW	-128 ~ +127	000
*S[P28]	1035/60i CONTRAST	-064 ~ +063	000
*S[P29]	1035/60i BRIGHT HIGH	-128 ~ +127	000
*S[P30]	1035/60i BRIGHT LOW	-128 ~ +127	000
*S[P31]	1080/50i CONTRAST	-064 ~ +063	000
*S[P32]	1080/50i BRIGHT HIGH	-128 ~ +127	000

Item No.	Item name	Variable range	Setting value
*S[P33]	1080/50i BRIGHT LOW	-128 ~ +127	000
*S[P34]	1080/24psf CONTRAST	-064 ~ +063	-005
*S[P35]	1080/24psf BRIGHT HIGH	-128 ~ +127	000
*S[P36]	1080/24psf BRIGHT LOW	-128 ~ +127	000
*S[P37]	720/60p CONTRAST	-064 ~ +063	-005
*S[P38]	720/60p BRIGHT HIGH	-128 ~ +127	000
*S[P39]	720/60p BRIGHT LOW	-128 ~ +127	000
*S[P40]	720/50p CONTRAST	-064 ~ +063	-005
*S[P41]	720/50p BRIGHT HIGH	-128 ~ +127	000
*S[P42]	720/50p BRIGHT LOW	-128 ~ +127	000
SQ [ASPECT]			
S[Q01]	NTSC OVER-SCAN CONTRAST	-064 ~ +063	-007
S[Q02]	NTSC OVER-SCAN BRIGHT HIGH	-128 ~ +127	000
S[Q03]	NTSC OVER-SCAN BRIGHT LOW	-128 ~ +127	000
S[Q04]	NTSC UNDER-SCAN CONTRAST	-064 ~ +063	-002
S[Q05]	NTSC UNDER-SCAN BRIGHT HIGH	-128 ~ +127	000
S[Q06]	NTSC UNDER-SCAN BRIGHT LOW	-128 ~ +127	000
*S[Q07]	NTSC-Y/C OVER-SCAN CONTRAST	-064 ~ +063	000
*S[Q08]	NTSC-Y/C OVER-SCAN BRIGHT HIGH	-128 ~ +127	000
*S[Q09]	NTSC-Y/C OVER-SCAN BRIGHT LOW	-128 ~ +127	000
*S[Q10]	NTSC-Y/C UNDER-SCAN CONTRAST	-064 ~ +063	000
*S[Q11]	NTSC-Y/C UNDER-SCAN BRIGHT HIGH	-128 ~ +127	000
*S[Q12]	NTSC-Y/C UNDER-SCAN BRIGHT LOW	-128 ~ +127	000
S[Q13]	PAL OVER-SCAN CONTRAST	-064 ~ +063	-007
S[Q14]	PAL OVER-SCAN BRIGHT HIGH	-128 ~ +127	000
S[Q15]	PAL OVER-SCAN BRIGHT LOW	-128 ~ +127	000
S[Q16]	PAL UNDER-SCAN CONTRAST	-064 ~ +063	-002
S[Q17]	PAL UNDER-SCAN BRIGHT HIGH	-128 ~ +127	000
S[Q18]	PAL UNDER-SCAN BRIGHT LOW	-128 ~ +127	000
*S[Q19]	PAL-Y/C OVER-SCAN CONTRAST	-064 ~ +063	000
*S[Q20]	PAL-Y/C OVER-SCAN BRIGHT HIGH	-128 ~ +127	000
*S[Q21]	PAL-Y/C OVER-SCAN BRIGHT LOW	-128 ~ +127	000
*S[Q22]	PAL-Y/C UNDER-SCAN CONTRAST	-064 ~ +063	000
*S[Q23]	PAL-Y/C UNDER-SCAN BRIGHT HIGH	-128 ~ +127	000
*S[Q24]	PAL-Y/C UNDER-SCAN BRIGHT LOW	-128 ~ +127	000
*S[[Q25]	480/60i OVER-SCAN CONTRAST	-064 ~ +063	000
*S[Q26]	480/60i OVER-SCAN BRIGHT HIGH	-128 ~ +127	000
*S[Q27]	480/60i OVER-SCAN BRIGHT LOW	-128 ~ +127	000
*S[Q28]	480/60i UNDER-SCAN CONTRAST	-064 ~ +063	000
*S[Q29]	480/60i UNDER-SCAN BRIGHT HIGH	-128 ~ +127	000
*S[Q30]	480/60i UNDER-SCAN BRIGHT LOW	-128 ~ +127	000
*S[Q31]	576/50i OVER-SCAN CONTRAST	-064 ~ +063	000
*S[Q32]	576/50i OVER-SCAN BRIGHT HIGH	-128 ~ +127	000
*S[Q33]	576/50i OVER-SCAN BRIGHT LOW	-128 ~ +127	000
*S[Q34]	576/50i UNDER-SCAN CONTRAST	-064 ~ +063	000
*S[Q35]	576/50i UNDER-SCAN BRIGHT HIGH	-128 ~ +127	000
*S[Q36]	576/50i UNDER-SCAN BRIGHT LOW	-128 ~ +127	000
*S[Q37]	480/60p OVER-SCAN CONTRAST	-064 ~ +063	000
*S[Q38]	480/60p OVER-SCAN BRIGHT HIGH	-128 ~ +127	000
*S[Q39]	480/60p OVER-SCAN BRIGHT LOW	-128 ~ +127	000
*S[Q40]	480/60p UNDER-SCAN CONTRAST	-064 ~ +063	000
*S[Q41]	480/60p UNDER-SCAN BRIGHT HIGH	-128 ~ +127	000
*S[Q42]	480/60p UNDER-SCAN BRIGHT LOW	-128 ~ +127	000
*S[Q43]	576/50p OVER-SCAN CONTRAST	-064 ~ +063	000
*S[Q44]	576/50p OVER-SCAN BRIGHT HIGH	-128 ~ +127	000
*S[Q45]	576/50p OVER-SCAN BRIGHT LOW	-128 ~ +127	000
*S[Q46]	576/50p UNDER-SCAN CONTRAST	-064 ~ +063	000
*S[Q47]	576/50p UNDER-SCAN BRIGHT HIGH	-128 ~ +127	000
*S[Q48]	576/50p UNDER-SCAN BRIGHT LOW	-128 ~ +127	000
SR [COMMON]			
S[R01]	CONTRAST	000 ~ 127	042
S[R02]	BRIGHT HIGH	000 ~ 255	128
S[R03]	CHROMA	000 ~ 127	063
S[R04]	PHASE	000 ~ 127	063
S[R05]	APERTURE	000 ~ 127	045
S[R06]	BRIGHT LOW	-128 ~ +127	000
S[R07]	Y DL	000 ~ 001	000
S[R08]	R-Y PHASE	000 ~ 003	000
S[R09]	R/B GAIN	000 ~ 003	000
S[R10]	G-Y PHASE	000 ~ 003	000
S[R11]	G/B GAIN	000 ~ 003	001
SS [-----] *Not used			
S[S01]	NTSC CONTRAST	-064 ~ +063	000

Item No.	Item name	Variable range	Setting value
S[S02]	NTSC BRIGHT HIGH	-128 ~ +127	000
S[S03]	NTSC BRIGHT LOW	-128 ~ +127	000
S[S04]	NTSC-Y/C CONTRAST	-064 ~ +063	000
S[S05]	NTSC-Y/C BRIGHT HIGH	-128 ~ +127	000
S[S06]	NTSC-Y/C BRIGHT LOW	-128 ~ +127	000
S[S07]	PAL CONTRAST	-064 ~ +063	000
S[S08]	PAL BRIGHT HIGH	-128 ~ +127	000
S[S09]	PAL BRIGHT LOW	-128 ~ +127	000
S[S10]	PAL-Y/C CONTRAST	-064 ~ +063	000
S[S11]	PAL-Y/C BRIGHT HIGH	-128 ~ +127	000
S[S12]	PAL-Y/C BRIGHT LOW	-128 ~ +127	000
S[S13]	480/60i CONTRAST	-064 ~ +063	000
S[S14]	480/60i BRIGHT HIGH	-128 ~ +127	000
S[S15]	480/60i BRIGHT LOW	-128 ~ +127	000
S[S16]	576/50i CONTRAST	-064 ~ +063	000
S[S17]	576/50i BRIGHT HIGH	-128 ~ +127	000
S[S18]	576/50i BRIGHT LOW	-128 ~ +127	000
S[S19]	480/60p CONTRAST	-064 ~ +063	000
S[S20]	480/60p BRIGHT HIGH	-128 ~ +127	000
S[S21]	480/60p BRIGHT LOW	-128 ~ +127	000
S[S22]	576/50p CONTRAST	-064 ~ +063	000
S[S23]	576/50p BRIGHT HIGH	-128 ~ +127	000
S[S24]	576/50p BRIGHT LOW	-128 ~ +127	000
S[S25]	1080/60i CONTRAST	-064 ~ +063	000
S[S26]	1080/60i BRIGHT HIGH	-128 ~ +127	000
S[S27]	1080/60i BRIGHT LOW	-128 ~ +127	000
S[S28]	1035/60i CONTRAST	-064 ~ +063	000
S[S29]	1035/60i BRIGHT HIGH	-128 ~ +127	000
S[S30]	1035/60i BRIGHT LOW	-128 ~ +127	000
S[S31]	1080/50i CONTRAST	-064 ~ +063	000
S[S32]	1080/50i BRIGHT HIGH	-128 ~ +127	000
S[S33]	1080/50i BRIGHT LOW	-128 ~ +127	000
S[S34]	1080/24psf CONTRAST	-064 ~ +063	000
S[S35]	1080/24psf BRIGHT HIGH	-128 ~ +127	000
S[S36]	1080/24psf BRIGHT LOW	-128 ~ +127	000
S[S37]	720/60p CONTRAST	-064 ~ +063	000
S[S38]	720/60p BRIGHT HIGH	-128 ~ +127	000
S[S39]	720/60p BRIGHT LOW	-128 ~ +127	000
S[S40]	720/50p CONTRAST	-064 ~ +063	000
S[S41]	720/50p BRIGHT HIGH	-128 ~ +127	000
S[S42]	720/50p BRIGHT LOW	-128 ~ +127	000
ST [-----] *Not used			
S[T01]	NTSC CONTRAST	-064 ~ +063	000
S[T02]	NTSC BRIGHT HIGH	-128 ~ +127	000
S[T03]	NTSC BRIGHT LOW	-128 ~ +127	000
S[T04]	NTSC-Y/C CONTRAST	-064 ~ +063	000
S[T05]	NTSC-Y/C BRIGHT HIGH	-128 ~ +127	000
S[T06]	NTSC-Y/C BRIGHT LOW	-128 ~ +127	000
S[T07]	PAL CONTRAST	-064 ~ +063	000
S[T08]	PAL BRIGHT HIGH	-128 ~ +127	000
S[T09]	PAL BRIGHT LOW	-128 ~ +127	000
S[T10]	PAL-Y/C CONTRAST	-064 ~ +063	000
S[T11]	PAL-Y/C BRIGHT HIGH	-128 ~ +127	000
S[T12]	PAL-Y/C BRIGHT LOW	-128 ~ +127	000
S[T13]	480/60i CONTRAST	-064 ~ +063	000
S[T14]	480/60i BRIGHT HIGH	-128 ~ +127	000
S[T15]	480/60i BRIGHT LOW	-128 ~ +127	000
S[T16]	576/50i CONTRAST	-064 ~ +063	000
S[T17]	576/50i BRIGHT HIGH	-128 ~ +127	000
S[T18]	576/50i BRIGHT LOW	-128 ~ +127	000
SU [-----] *Not used			
S[U01]	CONTRAST	-064 ~ +063	-005
S[U02]	BRIGHT HIGH	-128 ~ +127	-004
S[U03]	CHROMA	-064 ~ +063	+005
S[U04]	PHASE	-064 ~ +063	-002
S[U05]	APERTURE	-064 ~ +063	000
S[U06]	BRIGHT LOW	-128 ~ +127	000
S[U07]	Y DL	000 ~ 001	000
S[U08]	R-Y PHASE	000 ~ 003	000
S[U09]	R/B GAIN	000 ~ 003	000
S[U10]	G-Y PHASE	000 ~ 003	000
S[U11]	G/B GAIN	000 ~ 003	000

## 4.7.2 WHITE BALANCE BLOCK

Item No.	Item name	Variable range	Setting value
WA [NTSC HIGH]			
W[A01]	R DRIVE	-128 ~ +127	000
W[A02]	G DRIVE	-128 ~ +127	000
W[A03]	B DRIVE	-128 ~ +127	000
W[A04]	R CUTOFF	-128 ~ +127	000
W[A05]	G CUTOFF	-128 ~ +127	000
W[A06]	B CUTOFF	-128 ~ +127	000
WB [NTSC LOW]			
W[B01]	R DRIVE	-128 ~ +127	000
W[B02]	G DRIVE	-128 ~ +127	000
W[B03]	B DRIVE	-128 ~ +127	000
W[B04]	R CUTOFF	-128 ~ +127	000
W[B05]	G CUTOFF	-128 ~ +127	000
W[B06]	B CUTOFF	-128 ~ +127	000
WC [PAL HIGH]			
W[C01]	R DRIVE	-128 ~ +127	000
W[C02]	G DRIVE	-128 ~ +127	000
W[C03]	B DRIVE	-128 ~ +127	000
W[C04]	R CUTOFF	-128 ~ +127	000
W[C05]	G CUTOFF	-128 ~ +127	000
W[C06]	B CUTOFF	-128 ~ +127	000
WD [PAL LOW]			
W[D01]	R DRIVE	-128 ~ +127	000
W[D02]	G DRIVE	-128 ~ +127	000
W[D03]	B DRIVE	-128 ~ +127	+005
W[D04]	R CUTOFF	-128 ~ +127	000
W[D05]	G CUTOFF	-128 ~ +127	000
W[D06]	B CUTOFF	-128 ~ +127	000
WE [-----] *Not used			
W[E01]	R DRIVE	-128 ~ +127	000
W[E02]	G DRIVE	-128 ~ +127	000
W[E03]	B DRIVE	-128 ~ +127	000
W[E04]	R CUTOFF	-128 ~ +127	000
W[E05]	G CUTOFF	-128 ~ +127	000
W[E06]	B CUTOFF	-128 ~ +127	000
WF [-----] *Not used			
W[F01]	R DRIVE	-128 ~ +127	000
W[F02]	G DRIVE	-128 ~ +127	000
W[F03]	B DRIVE	-128 ~ +127	000
W[F04]	R CUTOFF	-128 ~ +127	000
W[F05]	G CUTOFF	-128 ~ +127	000
W[F06]	B CUTOFF	-128 ~ +127	000
WG [-----] *Not used			
W[G01]	R DRIVE	-128 ~ +127	000
W[G02]	G DRIVE	-128 ~ +127	000
W[G03]	B DRIVE	-128 ~ +127	000
W[G04]	R CUTOFF	-128 ~ +127	000
W[G05]	G CUTOFF	-128 ~ +127	000
W[G06]	B CUTOFF	-128 ~ +127	000
WH [-----] *Not used			
W[H01]	R DRIVE	-128 ~ +127	000
W[H02]	G DRIVE	-128 ~ +127	000
W[H03]	B DRIVE	-128 ~ +127	+003
W[H04]	R CUTOFF	-128 ~ +127	000
W[H05]	G CUTOFF	-128 ~ +127	+006
W[H06]	B CUTOFF	-128 ~ +127	000
WI [-----] *Not used			
W[I01]	R DRIVE	-128 ~ +127	000
W[I02]	G DRIVE	-128 ~ +127	000
W[I03]	B DRIVE	-128 ~ +127	000
W[I04]	R CUTOFF	-128 ~ +127	000
W[I05]	G CUTOFF	-128 ~ +127	000
W[I06]	B CUTOFF	-128 ~ +127	000
WJ [-----] *Not used			
W[J01]	R DRIVE	-128 ~ +127	000
W[J02]	G DRIVE	-128 ~ +127	000
W[J03]	B DRIVE	-128 ~ +127	000
W[J04]	R CUTOFF	-128 ~ +127	000
W[J05]	G CUTOFF	-128 ~ +127	000
W[J06]	B CUTOFF	-128 ~ +127	000

Item No.	Item name	Variable range	Setting value
WK [-----] *Not used			
W[K01]	R DRIVE	-128 ~ +127	000
W[K02]	G DRIVE	-128 ~ +127	000
W[K03]	B DRIVE	-128 ~ +127	000
W[K04]	R CUTOFF	-128 ~ +127	000
W[K05]	G CUTOFF	-128 ~ +127	000
W[K06]	B CUTOFF	-128 ~ +127	000
WL [-----] *Not used			
W[L01]	R DRIVE	-128 ~ +127	000
W[L02]	G DRIVE	-128 ~ +127	000
W[L03]	B DRIVE	-128 ~ +127	000
W[L04]	R CUTOFF	-128 ~ +127	000
W[L05]	G CUTOFF	-128 ~ +127	000
W[L06]	B CUTOFF	-128 ~ +127	000
WM [-----] *Not used			
W[M01]	R DRIVE	-128 ~ +127	000
W[M02]	G DRIVE	-128 ~ +127	000
W[M03]	B DRIVE	-128 ~ +127	000
W[M04]	R CUTOFF	-128 ~ +127	000
W[M05]	G CUTOFF	-128 ~ +127	000
W[M06]	B CUTOFF	-128 ~ +127	000
WN [-----] *Not used			
W[N01]	R DRIVE	-128 ~ +127	000
W[N02]	G DRIVE	-128 ~ +127	000
W[N03]	B DRIVE	-128 ~ +127	000
W[N04]	R CUTOFF	-128 ~ +127	000
W[N05]	G CUTOFF	-128 ~ +127	000
W[N06]	B CUTOFF	-128 ~ +127	000
WO [-----] *Not used			
W[O01]	R DRIVE	-128 ~ +127	000
W[O02]	G DRIVE	-128 ~ +127	000
W[O03]	B DRIVE	-128 ~ +127	000
W[O04]	R CUTOFF	-128 ~ +127	000
W[O05]	G CUTOFF	-128 ~ +127	000
W[O06]	B CUTOFF	-128 ~ +127	000
WP [-----] *Not used			
W[P01]	R DRIVE	-128 ~ +127	000
W[P02]	G DRIVE	-128 ~ +127	000
W[P03]	B DRIVE	-128 ~ +127	000
W[P04]	R CUTOFF	-128 ~ +127	000
W[P05]	G CUTOFF	-128 ~ +127	000
W[P06]	B CUTOFF	-128 ~ +127	000
WQ [-----] *Not used			
W[Q01]	R DRIVE	-128 ~ +127	000
W[Q02]	G DRIVE	-128 ~ +127	000
W[Q03]	B DRIVE	-128 ~ +127	000
W[Q04]	R CUTOFF	-128 ~ +127	000
W[Q05]	G CUTOFF	-128 ~ +127	000
W[Q06]	B CUTOFF	-128 ~ +127	000
WR [-----] *Not used			
W[R01]	R DRIVE	-128 ~ +127	000
W[R02]	G DRIVE	-128 ~ +127	000
W[R03]	B DRIVE	-128 ~ +127	000
W[R04]	R CUTOFF	-128 ~ +127	000
W[R05]	G CUTOFF	-128 ~ +127	000
W[R06]	B CUTOFF	-128 ~ +127	000
WS [-----] *Not used			
W[S01]	R DRIVE	-128 ~ +127	000
W[S02]	G DRIVE	-128 ~ +127	000
W[S03]	B DRIVE	-128 ~ +127	000
W[S04]	R CUTOFF	-128 ~ +127	000
W[S05]	G CUTOFF	-128 ~ +127	000
W[S06]	B CUTOFF	-128 ~ +127	000
WT [-----] *Not used			
W[T01]	R DRIVE	-128 ~ +127	000
W[T02]	G DRIVE	-128 ~ +127	000
W[T03]	B DRIVE	-128 ~ +127	000
W[T04]	R CUTOFF	-128 ~ +127	000
W[T05]	G CUTOFF	-128 ~ +127	000
W[T06]	B CUTOFF	-128 ~ +127	000
WU [UNDER SCAN HIGH]			
W[U01]	R DRIVE	-128 ~ +127	000
W[U02]	G DRIVE	-128 ~ +127	000

Item No.	Item name	Variable range	Setting value
W[U03]	B DRIVE	-128 ~ +127	000
W[U04]	R CUTOFF	-128 ~ +127	000
W[U05]	G CUTOFF	-128 ~ +127	000
W[U06]	B CUTOFF	-128 ~ +127	000
WV [UNDER SCAN LOW]			
W[V01]	R DRIVE	-128 ~ +127	000
W[V02]	G DRIVE	-128 ~ +127	000
W[V03]	B DRIVE	-128 ~ +127	000
W[V04]	R CUTOFF	-128 ~ +127	000
W[V05]	G CUTOFF	-128 ~ +127	000
W[V06]	B CUTOFF	-128 ~ +127	000
WW [COMMON HIGH]			
W[W01]	R DRIVE	0 ~ 127	074
W[W02]	G DRIVE	0 ~ 127	063
W[W03]	B DRIVE	0 ~ 127	058
W[W04]	R CUTOFF	0 ~ 127	100
W[W05]	G CUTOFF	0 ~ 127	100
W[W06]	B CUTOFF	0 ~ 127	100
WX [COMMON LOW]			
W[X01]	R DRIVE	0 ~ 127	087
W[X02]	G DRIVE	0 ~ 127	063
W[X03]	B DRIVE	0 ~ 127	042
W[X04]	R CUTOFF	0 ~ 127	100
W[X05]	G CUTOFF	0 ~ 127	100
W[X06]	B CUTOFF	0 ~ 127	100

#### 4.7.3 DEFLECTION BLOCK

Item No.	Item name	Variable range	Setting value
DA [NTSC]			
D[A01]	H.SIZE	-064 ~ +064	000
D[A02]	V.SIZE	-064 ~ +064	000
D[A03]	H.POSITION	-064 ~ +064	000
D[A04]	V.POSITION	-064 ~ +064	000
D[A05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[A06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[A07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[A08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[A09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[A10]	H.ARC DISTORTION	-032 ~ +032	000
D[A11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[A12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DB [NTSC-UNDER]			
D[B01]	H.SIZE	-064 ~ +064	-019
D[B02]	V.SIZE	-064 ~ +064	-047
D[B03]	H.POSITION	-064 ~ +064	000
D[B04]	V.POSITION	-064 ~ +064	000
D[B05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[B06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[B07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[B08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[B09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[B10]	H.ARC DISTORTION	-032 ~ +032	000
D[B11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[B12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DC [PAL]			
D[C01]	H.SIZE	-064 ~ +064	+002
D[C02]	V.SIZE	-064 ~ +064	+003
D[C03]	H.POSITION	-064 ~ +064	+002
D[C04]	V.POSITION	-064 ~ +064	000
D[C05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[C06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[C07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[C08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[C09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[C10]	H.ARC DISTORTION	-032 ~ +032	000
D[C11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[C12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DD [PAL-UNDER]			
D[D01]	H.SIZE	-064 ~ +064	-019
D[D02]	V.SIZE	-064 ~ +064	-048
D[D03]	H.POSITION	-064 ~ +064	000

Item No.	Item name	Variable range	Setting value
D[D04]	V.POSITION	-064 ~ +064	000
D[D05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[D06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[D07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[D08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[D09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[D10]	H.ARC DISTORTION	-032 ~ +032	000
D[D11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[D12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DE [-----] *Not used			
D[E01]	H.SIZE	-064 ~ +064	-003
D[E02]	V.SIZE	-064 ~ +064	+001
D[E03]	H.POSITION	-064 ~ +064	+017
D[E04]	V.POSITION	-064 ~ +064	000
D[E05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[E06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[E07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[E08]	PARALLELOGRAM DISTORTION	-032 ~ +032	+004
D[E09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[E10]	H.ARC DISTORTION	-032 ~ +032	000
D[E11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[E12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DF [-----] *Not used			
D[F01]	H.SIZE	-064 ~ +064	-016
D[F02]	V.SIZE	-064 ~ +064	-047
D[F03]	H.POSITION	-064 ~ +064	-005
D[F04]	V.POSITION	-064 ~ +064	000
D[F05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[F06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[F07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[F08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[F09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[F10]	H.ARC DISTORTION	-032 ~ +032	000
D[F11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[F12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DG [-----] *Not used			
D[G01]	H.SIZE	-064 ~ +064	000
D[G02]	V.SIZE	-064 ~ +064	+004
D[G03]	H.POSITION	-064 ~ +064	+011
D[G04]	V.POSITION	-064 ~ +064	000
D[G05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[G06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[G07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[G08]	PARALLELOGRAM DISTORTION	-032 ~ +032	+004
D[G09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[G10]	H.ARC DISTORTION	-032 ~ +032	000
D[G11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[G12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DH [-----] *Not used			
D[H01]	H.SIZE	-064 ~ +064	-017
D[H02]	V.SIZE	-064 ~ +064	-048
D[H03]	H.POSITION	-064 ~ +064	-003
D[H04]	V.POSITION	-064 ~ +064	000
D[H05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[H06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[H07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[H08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[H09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[H10]	H.ARC DISTORTION	-032 ~ +032	000
D[H11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[H12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DI [-----] *Not used			
D[I01]	H.SIZE	-064 ~ +064	000
D[I02]	V.SIZE	-064 ~ +064	000
D[I03]	H.POSITION	-064 ~ +064	000
D[I04]	V.POSITION	-064 ~ +064	000
D[I05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[I06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[I07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[I08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[I09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[I10]	H.ARC DISTORTION	-032 ~ +032	000
D[I11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000

Item No.	Item name	Variable range	Setting value
D[J12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DJ [-----] *Not used			
D[J01]	H.SIZE	-064 ~ +064	000
D[J02]	V.SIZE	-064 ~ +064	000
D[J03]	H.POSITION	-064 ~ +064	000
D[J04]	V.POSITION	-064 ~ +064	000
D[J05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[J06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[J07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[J08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[J09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[J10]	H.ARC DISTORTION	-032 ~ +032	000
D[J11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[J12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DK [-----] *Not used			
D[K01]	H.SIZE	-064 ~ +064	000
D[K02]	V.SIZE	-064 ~ +064	000
D[K03]	H.POSITION	-064 ~ +064	000
D[K04]	V.POSITION	-064 ~ +064	000
D[K05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[K06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[K07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[K08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[K09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[K10]	H.ARC DISTORTION	-032 ~ +032	000
D[K11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[K12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DL [-----] *Not used			
D[L01]	H.SIZE	-064 ~ +064	000
D[L02]	V.SIZE	-064 ~ +064	000
D[L03]	H.POSITION	-064 ~ +064	000
D[L04]	V.POSITION	-064 ~ +064	000
D[L05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[L06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[L07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[L08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[L09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[L10]	H.ARC DISTORTION	-032 ~ +032	000
D[L11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[L12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DM [-----] *Not used			
D[M01]	H.SIZE	-064 ~ +064	-002
D[M02]	V.SIZE	-064 ~ +064	-013
D[M03]	H.POSITION	-064 ~ +064	+015
D[M04]	V.POSITION	-064 ~ +064	+002
D[M05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[M06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[M07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[M08]	PARALLELOGRAM DISTORTION	-032 ~ +032	+004
D[M09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[M10]	H.ARC DISTORTION	-032 ~ +032	000
D[M11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	+016
D[M12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DN [-----] *Not used			
D[N01]	H.SIZE	-064 ~ +064	-017
D[N02]	V.SIZE	-064 ~ +064	-048
D[N03]	H.POSITION	-064 ~ +064	-003
D[N04]	V.POSITION	-064 ~ +064	000
D[N05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[N06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[N07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[N08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[N09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[N10]	H.ARC DISTORTION	-032 ~ +032	000
D[N11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[N12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DO [-----] *Not used			
D[O01]	H.SIZE	-064 ~ +064	-001
D[O02]	V.SIZE	-064 ~ +064	000
D[O03]	H.POSITION	-064 ~ +064	+015
D[O04]	V.POSITION	-064 ~ +064	+004
D[O05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[O06]	CORNER DISTORTION (W)	-032 ~ +032	000

Item No.	Item name	Variable range	Setting value
D[O07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[O08]	PARALLELOGRAM DISTORTION	-032 ~ +032	+004
D[O09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[O10]	H.ARC DISTORTION	-032 ~ +032	000
D[O11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	+016
D[O12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DP [-----] *Not used			
D[P01]	H.SIZE	-064 ~ +064	-018
D[P02]	V.SIZE	-064 ~ +064	-051
D[P03]	H.POSITION	-064 ~ +064	-003
D[P04]	V.POSITION	-064 ~ +064	000
D[P05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[P06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[P07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[P08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[P09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[P10]	H.ARC DISTORTION	-032 ~ +032	000
D[P11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[P12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DQ [-----] *Not used			
D[Q01]	H.SIZE	-064 ~ +064	000
D[Q02]	V.SIZE	-064 ~ +064	-004
D[Q03]	H.POSITION	-064 ~ +064	+019
D[Q04]	V.POSITION	-064 ~ +064	+001
D[Q05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[Q06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[Q07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[Q08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[Q09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[Q10]	H.ARC DISTORTION	-032 ~ +032	000
D[Q11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	+016
D[Q12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DR [-----] *Not used			
D[R01]	H.SIZE	-064 ~ +064	-018
D[R02]	V.SIZE	-064 ~ +064	-051
D[R03]	H.POSITION	-064 ~ +064	000
D[R04]	V.POSITION	-064 ~ +064	000
D[R05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[R06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[R07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[R08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[R09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[R10]	H.ARC DISTORTION	-032 ~ +032	000
D[R11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[R12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DS [-----] *Not used			
D[S01]	H.SIZE	-064 ~ +064	-001
D[S02]	V.SIZE	-064 ~ +064	-010
D[S03]	H.POSITION	-064 ~ +064	+018
D[S04]	V.POSITION	-064 ~ +064	+002
D[S05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[S06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[S07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[S08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[S09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[S10]	H.ARC DISTORTION	-032 ~ +032	000
D[S11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	+016
D[S12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DT [-----] *Not used			
D[T01]	H.SIZE	-064 ~ +064	-017
D[T02]	V.SIZE	-064 ~ +064	-048
D[T03]	H.POSITION	-064 ~ +064	000
D[T04]	V.POSITION	-064 ~ +064	000
D[T05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[T06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[T07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[T08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[T09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[T10]	H.ARC DISTORTION	-032 ~ +032	000
D[T11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[T12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DU [-----] *Not used			
D[U01]	H.SIZE	-064 ~ +064	-003

Item No.	Item name	Variable range	Setting value
D[U02]	V.SIZE	-064 ~ +064	-015
D[U03]	H.POSITION	-064 ~ +064	+017
D[U04]	V.POSITION	-064 ~ +064	+002
D[U05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[U06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[U07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[U08]	PARALLELOGRAM DISTORTION	-032 ~ +032	+004
D[U09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[U10]	H.ARC DISTORTION	-032 ~ +032	000
D[U11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[U12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DV [-----] *Not used			
D[V01]	H.SIZE	-064 ~ +064	-017
D[V02]	V.SIZE	-064 ~ +064	-049
D[V03]	H.POSITION	-064 ~ +064	-003
D[V04]	V.POSITION	-064 ~ +064	000
D[V05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[V06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[V07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[V08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[V09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[V10]	H.ARC DISTORTION	-032 ~ +032	000
D[V11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[V12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DW [-----] *Not used			
D[W01]	H.SIZE	-064 ~ +064	+002
D[W02]	V.SIZE	-064 ~ +064	-007
D[W03]	H.POSITION	-064 ~ +064	+021
D[W04]	V.POSITION	-064 ~ +064	+001
D[W05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[W06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[W07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[W08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[W09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[W10]	H.ARC DISTORTION	-032 ~ +032	000
D[W11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	+016
D[W12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DX [-----] *Not used			
D[X01]	H.SIZE	-064 ~ +064	-017
D[X02]	V.SIZE	-064 ~ +064	-049
D[X03]	H.POSITION	-064 ~ +064	000
D[X04]	V.POSITION	-064 ~ +064	000
D[X05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[X06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[X07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[X08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[X09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[X10]	H.ARC DISTORTION	-032 ~ +032	000
D[X11]	V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[X12]	V.LINEARITY (C CORRECTION)	-016 ~ +016	000
DY [DY ASPECT]			
D[Y01]	NTSC OVERSCAN V.SIZE	-064 ~ +064	-006
D[Y02]	NTSC OVERSCAN V.POSITION	-064 ~ +064	000
D[Y03]	NTSC OVERSCAN SIDE PIN DISTORTION	-032 ~ +032	000
D[Y04]	NTSC UNDERSCAN V.SIZE	-064 ~ +064	-008
D[Y05]	NTSC UNDERSCAN V.POSITION	-064 ~ +064	000
D[Y06]	NTSC UNDERSCAN SIDE PIN DISTORTION	-032 ~ +032	000
D[Y07]	PAL OVERSCAN V.SIZE	-064 ~ +064	-006
D[Y08]	PAL OVERSCAN V.POSITION	-064 ~ +064	000
D[Y09]	PAL OVERSCAN SIDE PIN DISTORTION	-032 ~ +032	000
D[Y10]	PAL UNDERSCAN V.SIZE	-064 ~ +064	-008
D[Y11]	PAL UNDERSCAN V.POSITION	-064 ~ +064	000
D[Y12]	PAL UNDERSCAN SIDE PIN DISTORTION	-032 ~ +032	000
*D[Y13]	480/60i OVERSCAN V.SIZE	-064 ~ +064	-006
*D[Y14]	480/60i OVERSCAN V.POSITION	-064 ~ +064	000
*D[Y15]	480/60i OVERSCAN SIDE PIN DISTORTION	-032 ~ +032	000
*D[Y16]	480/60i UNDERSCAN V.SIZE	-064 ~ +064	-008
*D[Y17]	480/60i UNDERSCAN V.POSITION	-064 ~ +064	000
*D[Y18]	480/60i UNDERSCAN SIDE PIN DISTORTION	-032 ~ +032	000
*D[Y19]	576/50i OVERSCAN V.SIZE	-064 ~ +064	-006
*D[Y20]	576/50i OVERSCAN V.POSITION	-064 ~ +064	000
*D[Y21]	576/50i OVERSCAN SIDE PIN DISTORTION	-032 ~ +032	000
*D[Y22]	576/50i UNDERSCAN V.SIZE	-064 ~ +064	-008

Item No.	Item name	Vriable range	Setting value
D[Y23]	576/50i UNDERSCAN V.POSITION	-064 ~ +064	000
D[Y24]	576/50i UNDERSCAN SIDE PIN DISTORTION	-032 ~ +032	000
D[Y25]	480/60p OVERSCAN V.SIZE	-064 ~ +064	-006
D[Y26]	480/60p OVERSCAN V.POSITION	-064 ~ +064	000
D[Y27]	480/60p OVERSCAN SIDE PIN DISTORTION	-032 ~ +032	000
D[Y28]	480/60p UNDERSCAN V.SIZE	-064 ~ +064	-008
D[Y29]	480/60p UNDERSCAN V.POSITION	-064 ~ +064	000
D[Y30]	480/60p UNDERSCAN SIDE PIN DISTORTION	-032 ~ +032	000
D[Y31]	576/50p OVERSCAN V.SIZE	-064 ~ +064	-006
D[Y32]	576/50p OVERSCAN V.POSITION	-064 ~ +064	000
D[Y33]	576/50p OVERSCAN SIDE PIN DISTORTION	-032 ~ +032	000
D[Y34]	576/50p UNDERSCAN V.SIZE	-064 ~ +064	-008
D[Y35]	576/50p UNDERSCAN V.POSITION	-064 ~ +064	000
D[Y36]	576/50p UNDERSCAN SIDE PIN DISTORTION	-032 ~ +032	000
DZ [V-FREQ]			
D[Z01]	45 ~ 55Hz V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[Z02]	45 ~ 55Hz V.LINEARITY (C CORRECTION)	-016 ~ +016	000
D[Z03]	45 ~ 55Hz FOCUS (PARABOLA)	-032 ~ +032	000
D[Z04]	55 ~ 65Hz V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[Z05]	55 ~ 65Hz V.LINEARITY (C CORRECTION)	-016 ~ +016	000
D[Z06]	55 ~ 65Hz FOCUS (PARABOLA)	-032 ~ +032	000
D[Z07]	720/50p 720/60p V.LINEARITY (S CORRECTION)	-016 ~ +016	000
D[Z08]	720/50p 720/60p V.LINEARITY (C CORRECTION)	-016 ~ +016	000
D[Z09]	720/50p 720/60p FOCUS (PARABOLA)	-032 ~ +032	000
D1 [ROTATION/PURITY]			
D[101]	ROTATION	-032 ~ +031	000
D[102]	PURITY	-032 ~ +031	000
D2 [COMMON]			
D[201]	H.SIZE	000 ~ 127	051
D[202]	V.SIZE	000 ~ 127	065
D[203]	H.POSITION	000 ~ 127	088
D[204]	V.POSITION	000 ~ 127	060
D[205]	SIDE PIN DISTORTION	000 ~ 063	063
D[206]	CORNER DISTORTION (W)	000 ~ 063	031
D[207]	CORNER DISTORTION (S)	000 ~ 063	031
D[208]	PARALLELOGRAM DISTORTION	000 ~ 063	022
D[209]	TRAPEZOIDAL DISTORTION	000 ~ 063	031
D[210]	H.ARC DISTORTION	000 ~ 063	031
D[211]	V.LINEARITY (S CORRECTION)	000 ~ 031	021
D[212]	V.LINEARITY (C CORRECTION)	000 ~ 031	014
D[213]	V.MAX SIZE CONTROL	000 ~ 031	016
D[214]	FOCUS (PHASE)	000 ~ 063	031
D[215]	FOCUS (PARABOLA)	000 ~ 063	031
D3 [-----] *Not used			
D[301]	H.SIZE	-064 ~ +064	-017
D[302]	V.SIZE	-064 ~ +064	-050
D[303]	H.POSITION	-064 ~ +064	000
D[304]	V.POSITION	-064 ~ +064	000
D[305]	SIDE PIN DISTORTION	-032 ~ +032	000

#### 4.7.4 CPU BLOCK (\*Item is not used)

Item No.	Item name	Vriable range	Setting value
CA [MENU]			
C[A01]	MENU DISPLAY TIME SETTING	000 ~ 001	000
C[A02]	MENU COLOR SETTING	000 ~ 008	000
C[A03]	ID SETTING	000 ~ 099	000
C[A04]	FPGA TEST PATTERN	000 ~ 255	000
*C[A05]	MENU HELP COLOR	000 ~ 255	000
C[A06]	OSDU DISPLAY TIME SETTING	000 ~ 255	003
C[A07]	NO-SYNC SIZE DATA CORRECTION	000 ~ 255	030
C[A08]	EMBEDDED AUDIO CONTROL	000 ~ 001	000
C[A09]	EMBEDDED AUDIO LEVEL	000 ~ 001	000
C[A10]	DEGAUSS_DELAY SETTING VALUE	000 ~ 255	005
CB [SIGNAL]			
C[B01]	CONTRAST MIN.	-255 ~ 000	-065
C[B02]	CONTRAST MAX.	000 ~ 255	035
C[B03]	BRIGHT MIN.	-255 ~ 000	-040
C[B04]	BRIGHT MAX.	000 ~ 255	025
C[B05]	CHROMA MIN.	-255 ~ 000	-040
C[B06]	CHROMA MAX.	000 ~ 255	040
C[B07]	PHASE MIN.	-255 ~ 000	050

Item No.	Item name	Vriable range	Setting value
C[B08]	PHASE MAX.	000 ~ 255	050
C[B09]	APERTURE MIN.	-255 ~ 000	000
C[B10]	APERTURE MAX.	000 ~ 255	090
C[B11]	B DRIVE MIN.	000 ~ 127	000
C[B12]	B DRIVE MAX.	000 ~ 127	127
C[B13]	R DRIVE MIN.	000 ~ 127	000
C[B14]	R DRIVE MAX.	000 ~ 127	127
C[B15]	G CUTOFF MIN.	000 ~ 255	100
C[B16]	G CUTOFF MAX.	000 ~ 255	255
C[B17]	B CUTOFF MIN.	000 ~ 255	100
C[B18]	B CUTOFF MAX.	000 ~ 255	255
C[B19]	R CUTOFF MIN.	000 ~ 255	100
C[B20]	R CUTOFF MAX.	000 ~ 255	255
CC [SETTING]			
C[C01]	V LEADING RESET TIME	000 ~ 255	063
C[C02]	SIGNAL CHANGE WAITING TIMER	000 ~ 100	030
C[C03]	RS-232C TRANSMISSION RATE	000 ~ 002	000
*C[C04]	FV VOLTAGE DISTINCTION ERROR	000 ~ 255	130
*C[C05]	COMPONENT 27K FV VALUE	000 ~ 255	131
*C[C06]	COMPONENT 28K FV VALUE	000 ~ 255	189
*C[C07]	COMPONENT 31K FV VALUE	000 ~ 255	174
*C[C08]	COMPONENT 33K FV VALUE	000 ~ 255	164
*C[C09]	COMPONENT 45K FV VALUE	000 ~ 255	113
C[C10]	COMPONENT NTSC 15K FV VALUE	000 ~ 255	245
C[C11]	COMPONENT PAL FV VALUE	000 ~ 255	246
*C[C12]	COMPONENT 37K FV VALUE	000 ~ 255	140
C[C13]	DELAY TIME -SLOW	000 ~ 255	032
C[C14]	NTSC SET-UP -BRIGHT	-128 ~ +127	000
C[C15]	COMPONENT LEVEL(SMPTE) -BRIGHT	-128 ~ +127	000
C[C16]	COMPONENT LEVEL(SMPTE) -CHROMA	-064 ~ +063	000
C[C17]	COMPONENT LEVEL(SMPTE) -PHASE	-064 ~ +063	000
C[C18]	COMPONENT LEVEL(B75) -BRIGHT	-128 ~ +127	000
C[C19]	COMPONENT LEVEL(B75) -CHROMA	-064 ~ +063	-018
C[C20]	COMPONENT LEVEL(B75) -PHASE	-064 ~ +063	000
C[C21]	COMPONENT LEVEL(B00) -BRIGHT	-128 ~ +127	-128
C[C22]	COMPONENT LEVEL(B00) -CHROMA	-064 ~ +063	-128
C[C23]	COMPONENT LEVEL(B00) -PHASE	-064 ~ +063	-127
C[C24]	H.POSITION CORRECTION (BW60)	-064 ~ +063	000
C[C25]	H.POSITION CORRECTION (BW50)	-064 ~ +063	000
C[C26]	V.POSITION CORRECTION (16:9)	-064 ~ +063	000
C[C27]	etc. PLUSE CROSS -B CUTOFF	-128 ~ +127	010
C[C28]	APERTURE OFF CONTRAST	-064 ~ +063	000
C[C29]	APERTURE 15K FILTER SELECT (L)	000 ~ 007	002
C[C30]	APERTURE 28K FILTER SELECT (L)	000 ~ 007	003
C[C31]	APERTURE 31K FILTER SELECT (L)	000 ~ 007	131
C[C32]	APERTURE 33K FILTER SELECT (L)	000 ~ 007	003
C[C33]	APERTURE 45K FILTER SELECT (L)	000 ~ 007	134
C[C34]	APERTURE 15K FILTER SELECT (H)	000 ~ 007	001
C[C35]	APERTURE 28K FILTER SELECT (H)	000 ~ 007	001
C[C36]	APERTURE 31K FILTER SELECT (H)	000 ~ 007	001
C[C37]	APERTURE 33K FILTER SELECT (H)	000 ~ 007	001
C[C38]	APERTURE 45K FILTER SELECT (H)	000 ~ 007	001
C[C39]	B1 ADJUST	-064 ~ +063	-005
C[C40]	OSD VR BAR ON/OFF	000 ~ 001	000
C[C41]	OSD VR BAR SELECT	000 ~ 003	000
C[C42]	15K NO-SYNC OSD V.POSITION	000 ~ 255	145
C[C43]	ASPECT 4:3 V.SIZE MAX	000 ~ 031	025
C[C44]	ASPECT 16:9 V.SIZE MAX	000 ~ 031	000
C[C45]	ASPECT TRAPEZOIDAL DISTORTION CORRECTION	-032 ~ +032	000
*C[C46]	H.SIZE DATA VALUE (at SIGNAL CHANGE)	000 ~ 255	010
CD [DEFLECTION]			
C[D01]	NO-SYNC H.SIZE	-064 ~ +063	000
C[D02]	NO-SYNC V.SIZE	-064 ~ +063	000
C[D03]	NO-SYNC H.POSITION	-064 ~ +063	000
C[D04]	NO-SYNC V.POSITION	-064 ~ +063	000
CE [OSD etc]			
C[E01]	RANGE OF H.SYNC DETECTION ERROR	000 ~ 100	006
C[E02]	RANGE OF V.SYNC DETECTION ERROR	000 ~ 100	005
C[E03]	STATUS DISPLAY BEGINNING DELAY	000 ~ 100	030
C[E04]	SIGNAL DETECTION NUMBER OF TIMES SETTING	000 ~ 100	004
C[E05]	NTSC, 480/60i CORNER DISTORTION (W)	-032 ~ +031	000
C[E06]	NTSC, 480/60i CORNER DISTORTION (S)	-032 ~ +031	000
C[E07]	NTSC, 480/60i PARALLELOGRAM DISTORTION	-032 ~ +031	000

Item No.	Item name	Vriable range	Setting value
C[E08]	NTSC, 480/60i TRAPEZOIDAL DISTORTION	-032 ~ +031	000
C[E09]	NTSC, 480/60i H.ARC DISTORTION	-032 ~ +031	000
C[E10]	PAL, 576/50i CORNER DISTORTION (W)	-032 ~ +031	000
C[E11]	PAL, 576/50i CORNER DISTORTION (S)	-032 ~ +031	000
C[E12]	PAL, 576/50i PARALLELOGRAM DISTORTION	-032 ~ +031	000
C[E13]	PAL, 576/50i TRAPEZOIDAL DISTORTION	-032 ~ +031	000
C[E14]	PAL, 576/50i H.ARC DISTORTION	-032 ~ +031	000
C[E15]	480/60p CORNER DISTORTION (W)	-032 ~ +031	000
C[E16]	480/60p CORNER DISTORTION (S)	-032 ~ +031	000
C[E17]	480/60p PARALLELOGRAM DISTORTION	-032 ~ +031	000
C[E18]	480/60p TRAPEZOIDAL DISTORTION	-032 ~ +031	000
C[E19]	480/60p H.ARC DISTORTION	-032 ~ +031	000
C[E20]	576/50p CORNER DISTORTION (W)	-032 ~ +031	000
C[E21]	576/50p CORNER DISTORTION (S)	-032 ~ +031	000
C[E22]	576/50p PARALLELOGRAM DISTORTION	-032 ~ +031	000
C[E23]	576/50p TRAPEZOIDAL DISTORTION	-032 ~ +031	000
C[E24]	576/50p H.ARC DISTORTION	-032 ~ +031	000
*C[E25]	BRIGHT VALUE (at V OFF)	000 ~ 255	000
C[E26]	SIGNAL CHANGE WAITING TIMER (V OUT of RANGE)	000 ~ 255	032

#### 4.7.5 UPC1884 ADJ. (\*Fixed values)

Item No.	Item name	Vriable range	Setting value
U[P01]	H.FREQ.DET.MODE H.F/V MIN OSC	000 ~ 255	031
U[P02]	H-IN POLARITY CTRL AUTO, H. F/V SENSE.	000 ~ 255	031
U[P03]	H. F/V CONTROL	000 ~ 255	128
U[P04]	F/V CONTROL, H. OUTPUT, H.PLL CONTORL H.DUTY	000 ~ 255	015
U[P05]	20mSEC COUNTER	000 ~ 255	128
U[P06]	I2C-BUS WRITE, BCONT, WINK OUTPUT	000 ~ 255	064
U[P07]	CLAMP CONTROL, SIDE PIN	000 ~ 255	031
U[P08]	H-IN SELECT, PARALLELOGRAM CONTROL	000 ~ 255	031
U[P09]	WINK OUTPUT, H.POSITION	000 ~ 255	070
U[P10]	500K OSC, SIDE PIN W	000 ~ 255	065
U[P11]	VIDEO BLK OUTPUT, SIDE PIN	000 ~ 255	065
U[P12]	PIN2 OUTPUT, TRAPEZOID	000 ~ 255	031
U[P13]	F.H OSC MAX., H.SIZE	000 ~ 255	000
U[P14]	V LOCK, V.SIZE	000 ~ 255	000
U[P15]	V SYNC SEP., V.POSITION	000 ~ 255	001
U[P16]	V-IN SELECT, V. S LINEARITY	000 ~ 255	159
U[P17]	V MOIRE (d4-d3), V. C LINEARITY	000 ~ 255	015
U[P18]	V MOIRE 2 (d2-d0), V. OUTPUT MAX SIZE	000 ~ 255	015
U[P19]	SIDE PIN S	000 ~ 255	065
U[P20]	DF SELECT H. DYNAMIC FOCUS	000 ~ 255	031
U[P21]	H.DYNAMIC FOCUS PARABORA	000 ~ 255	031
U[P22]	V-IN POLARITY, H MOIRE	000 ~ 255	000

#### 4.7.6 TA1276 ADJ. (\*Fixed values)

Item No.	Item name	Vriable range	Setting value
T[A01]	P-MUTE, CONTRAST	000 ~ 255	192
T[A02]	BRIGHT	000 ~ 255	128
T[A03]	CHROMA, Y-MUTE	000 ~ 255	129
T[A04]	TINT, YM-SW	000 ~ 255	128
T[A05]	SHARPNESS, YNR	000 ~ 255	000
T[A06]	RGB CONTRAST, WPSL	000 ~ 255	000
T[A07]	HI-BRT, RGB CONTRAST	000 ~ 255	000
T[A08]	SUB COLOR COLOR $\gamma$ , CLT	000 ~ 255	129
T[A09]	SUB CONTRAST, Y- $\gamma$ CURVE, FLESH	000 ~ 255	248
T[A10]	R DRIVE, DR-SW	000 ~ 255	128
T[A11]	B DRIVE, CDE	000 ~ 255	129
T[A12]	H.POSITION, HV-SEPL, V-OFF H-BLK	000 ~ 255	000
T[A13]	RCUTOFF	000 ~ 255	100
T[A14]	G CUTOFF	000 ~ 255	100
T[A15]	B CUTOFF	000 ~ 255	100
T[A16]	R-Y PHASE, R/B GAIN, G/B GAIN, G-Y PHASE	000 ~ 255	004
T[A17]	COLOR SYSTEM, P/N - ID, BB SW, OSD-SL, OS-ACL, TX-ACL	000 ~ 255	211
T[A18]	VSM PHASE, VSM GAIN, APACON PEAK FREQ., VSM-PB	000 ~ 255	000

Item No.	Item name	Vriable range	Setting value
T[A19]	DC RESTORATION POINT, DC RESTORTION RATE, DE RESTTORTION LIMIT	000 ~ 255	000
T[A20]	BLACK STRETCH POINT, APL VS BPS, Y- $\gamma$ PNT, VSM-H.PB FREQ.	000 ~ 255	000
T[A21]	SHR-TRACKING, TEST, RGB- $\gamma$ , B.L.C, B.S.G, B.D.L, BS-ARE	000 ~ 255	133
T[A22]	DYNAMIC ABL POINT, DYNAMIC ABL GAIN, AKB MODE	000 ~ 255	001
T[A23]	ABL POINT, ABL GAIN, RGB OUT MODE	000 ~ 255	000
T[A24]	HD-OUT, V-BLK, V.FREQ., V.POSITION	000 ~ 255	064
T[A25]	Y-DL, C-TRAP, TOF FREQ., TOF-Q	000 ~ 255	000

#### 4.7.7 SET FPGA : 100%\_AREA (\*Fixed value)

Item No.	Item name	Vriable range	Setting value
IA [-----] *Not used			
I[A01]	AREA MARKER H.POSITION START	-128 ~ +127	+013
I[A02]	AREA MARKER H.POSITION END	-128 ~ +127	+017
I[A03]	AREA MARKER V.POSITION START	-128 ~ +127	+002
I[A04]	AREA MARKER V.POSITION END	-128 ~ +127	-001
IB [-----] *Not used			
I[B01]	AREA MARKER H.POSITION START	-128 ~ +127	000
I[B02]	AREA MARKER H.POSITION END	-128 ~ +127	000
I[B03]	AREA MARKER V.POSITION START	-128 ~ +127	000
I[B04]	AREA MARKER V.POSITION END	-128 ~ +127	000
IC [-----] *Not used			
I[C01]	AREA MARKER H.POSITION START	-128 ~ +127	+007
I[C02]	AREA MARKER H.POSITION END	-128 ~ +127	+010
I[C03]	AREA MARKER V.POSITION START	-128 ~ +127	+003
I[C04]	AREA MARKER V.POSITION END	-128 ~ +127	-001
ID [-----] *Not used			
I[D01]	AREA MARKER H.POSITION START	-128 ~ +127	000
I[D02]	AREA MARKER H.POSITION END	-128 ~ +127	000
I[D03]	AREA MARKER V.POSITION START	-128 ~ +127	000
I[D04]	AREA MARKER V.POSITION END	-128 ~ +127	000
IE [-----] *Not used			
I[E01]	AREA MARKER H.POSITION START	-128 ~ +127	+008
I[E02]	AREA MARKER H.POSITION END	-128 ~ +127	+019
I[E03]	AREA MARKER V.POSITION START	-128 ~ +127	+002
I[E04]	AREA MARKER V.POSITION END	-128 ~ +127	+003
IF [-----] *Not used			
I[F01]	AREA MARKER H.POSITION START	-128 ~ +127	+002
I[F02]	AREA MARKER H.POSITION END	-128 ~ +127	+012
I[F03]	AREA MARKER V.POSITION START	-128 ~ +127	+002
I[F04]	AREA MARKER V.POSITION END	-128 ~ +127	+002
IG [-----] *Not used			
I[G01]	AREA MARKER H.POSITION START	-128 ~ +127	000
I[G02]	AREA MARKER H.POSITION END	-128 ~ +127	000
I[G03]	AREA MARKER V.POSITION START	-128 ~ +127	000
I[G04]	AREA MARKER V.POSITION END	-128 ~ +127	000
IH [-----] *Not used			
I[H01]	AREA MARKER H.POSITION START	-128 ~ +127	000
I[H02]	AREA MARKER H.POSITION END	-128 ~ +127	000
I[H03]	AREA MARKER V.POSITION START	-128 ~ +127	000
I[H04]	AREA MARKER V.POSITION END	-128 ~ +127	000
II [-----] *Not used			
I[I01]	AREA MARKER H.POSITION START	-128 ~ +127	+004
I[I02]	AREA MARKER H.POSITION END	-128 ~ +127	+020
I[I03]	AREA MARKER V.POSITION START	-128 ~ +127	-007
I[I04]	AREA MARKER V.POSITION END	-128 ~ +127	+003
IJ [-----] *Not used			
I[J01]	AREA MARKER H.POSITION START	-128 ~ +127	+005
I[J02]	AREA MARKER H.POSITION END	-128 ~ +127	+020
I[J03]	AREA MARKER V.POSITION START	-128 ~ +127	-018
I[J04]	AREA MARKER V.POSITION END	-128 ~ +127	-018
IK [-----] *Not used			
I[K01]	AREA MARKER H.POSITION START	-128 ~ +127	+002











Item No.	Item name	Variable range	Setting value
B[L03]	H.BLK START POSITION (UNDER)	-128 ~ +127	-017
B[L04]	H.BLK END POSITION (UNDER)	-128 ~ +127	-015
B[L05]	H.BLK START POSITION (ZOOM)	-128 ~ +127	-013
B[L06]	H.BLK END POSITION (ZOOM)	-128 ~ +127	-006
B[L07]	H.BLK START POSITION (PULSE)	-128 ~ +127	000
B[L08]	H.BLK END POSITION (PULSE)	-128 ~ +127	000
BM [-----] *Not used			
B[M01]	H.BLK START POSITION (NORMAL)	-128 ~ +127	+005
B[M02]	H.BLK END POSITION (NORMAL)	-128 ~ +127	-013
B[M03]	H.BLK START POSITION (UNDER)	-128 ~ +127	000
B[M04]	H.BLK END POSITION (UNDER)	-128 ~ +127	-020
B[M05]	H.BLK START POSITION (ZOOM)	-128 ~ +127	-015
B[M06]	H.BLK END POSITION (ZOOM)	-128 ~ +127	000
B[M07]	H.BLK START POSITION (PULSE)	-128 ~ +127	000
B[M08]	H.BLK END POSITION (PULSE)	-128 ~ +127	000
BN [-----] *Not used			
B[N01]	H.BLK START POSITION (NORMAL)	-128 ~ +127	-013
B[N02]	H.BLK END POSITION (NORMAL)	-128 ~ +127	-028
B[N03]	H.BLK START POSITION (UNDER)	-128 ~ +127	-020
B[N04]	H.BLK END POSITION (UNDER)	-128 ~ +127	-021
B[N05]	H.BLK START POSITION (ZOOM)	-128 ~ +127	-006
B[N06]	H.BLK END POSITION (ZOOM)	-128 ~ +127	-002
B[N07]	H.BLK START POSITION (PULSE)	-128 ~ +127	000
B[N08]	H.BLK END POSITION (PULSE)	-128 ~ +127	000

## 4.8 ADJUSTMENT PROCEDURES

### 4.8.1 B1 VOLTAGE ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
B1 VOLTAGE	DC voltmeter  Signal generator	TP-B1 [MAIN PWB] TP-E2 (GND) [LINE FILTER PWB]	SCREEN VR [FBT]  [CPU BLOCK] C[C39] : B1 ADJUST C[C27] : B1 ADJUST	<p>[AC INPUT]</p> <ol style="list-style-type: none"> <li>(1) Connect the DC voltmeter to TP-B1 on the MAIN PWB and TP-E2 (GND) on the LINE FILTER PWB.</li> <li>(2) Turn the MAIN and SUB power on.</li> <li>(3) Receive the NTSC crosshatch signal to INPUT A.</li> <li>(4) Gently turn the SCREEN VR to the left until the crosshatch pattern disappears.</li> <li>(5) Select "CPU BLOCK" in the SERVICE MENU.</li> <li>(6) Adjust &lt; C[C39] &gt; to set the B1 voltage to fall within <math>DC\ 117.0V \pm 0.2V</math>.</li> <li>(7) Gently turn the SCREEN VR to the right until the crosshatch pattern appears.</li> </ol> <p>[DC INPUT]</p> <ol style="list-style-type: none"> <li>(1) Apply the DC voltage of <math>DC13.5V \pm 0.2V</math> to DC POWER input and perform step (2) to step (6) for AC INPUT.</li> <li>(2) Adjust &lt;[C[C27]]&gt; to set the B1 voltage to be <math>DC117.0 \pm 0.2V</math>.</li> <li>(3) Gently turn the SCREEN VR to the right until the crosshatch pattern appears.</li> </ol>

### 4.8.2 CRT HIGH VOLTAGE CHECK

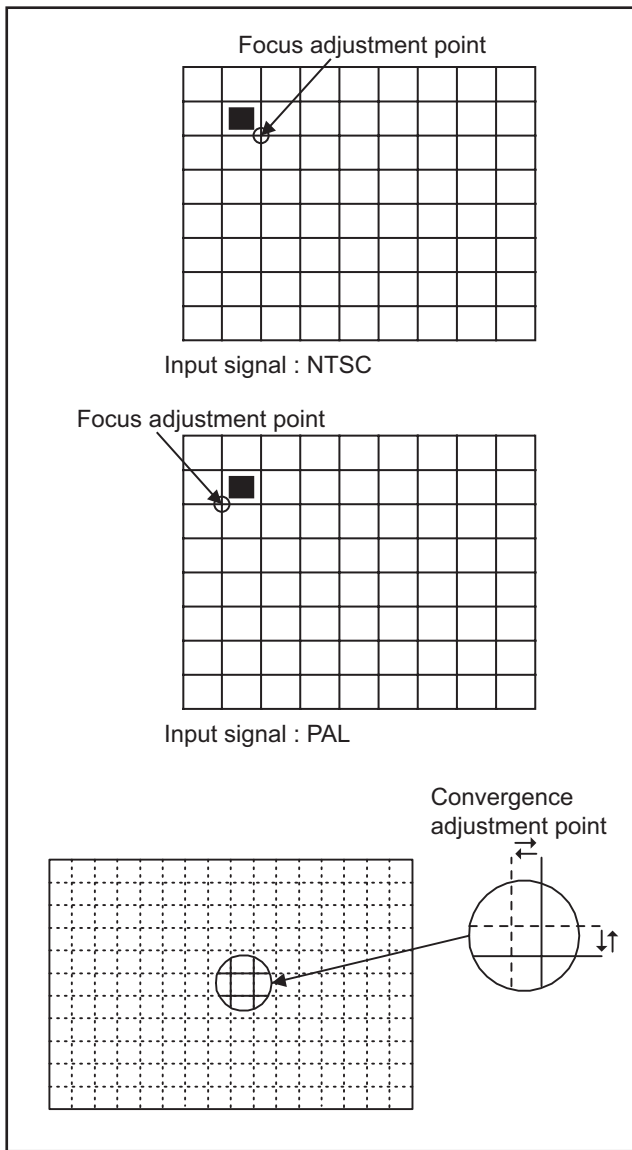
Item	Measuring instrument	Test point	Adjustment part	Description
CRT HIGH VOLTAGE	High-voltage voltmeter  Signal generator	CRT anode	SCREEN VR [FBT]	<ul style="list-style-type: none"> <li>• This adjustment must be done after the B1 VOLTAGE adjustment.</li> </ul> <ol style="list-style-type: none"> <li>(1) Connect the GND lead of the high-voltage voltmeter to the chassis ground.</li> <li>(2) Connect the high-voltage voltmeter probe to the CRT anode electrode.</li> <li>(3) Turn the MAIN and SUB power on.</li> <li>(4) Receive the NTSC crosshatch signal to INPUT A.</li> <li>(5) Gently turn the SCREEN VR to the left until the crosshatch pattern disappears.</li> <li>(6) Check the voltmeter reading is in the range of 20.7kV to 23.3kV.</li> <li>(7) Gently turn the SCREEN VR to the right until the crosshatch pattern appears.</li> </ol>

#### 4.8.3 X-RAY PROTECTOR OPERATION CHECK

Item	Measuring instrument	Test point	Adjustment part	Description
X-RAY PROTECTOR OPERATION	Signal generator  Dummy load resistor (41kΩ)  DC power supply (49V ± 1V)	Connector CN10S1 1-pin : X-ray1 2-pin : X-ray2 3-pin : GND [MAIN PWB]	SCREEN VR [FBT]	<ul style="list-style-type: none"> <li>This adjustment must be done after the B1 VOLTAGE adjustment.</li> <li>(1) Receive the NTSC crosshatch signal to INPUT A.</li> <li>(2) Gently turn the SCREEN VR to the left until the crosshatch pattern disappears.</li> <li>(3) Connect the dummy load resistor (41kΩ) to 1-pin (X-ray1) and 2-pin (X-ray2) at the connector CN10S1 on the MAIN PWB.</li> <li>(4) Confirm the horizontal oscillation is accordingly deactivated and no high voltage is being output.</li> <li>(5) Turn the MAIN power off and disconnect the dummy load resistor.</li> <li>(6) Turn the MAIN power on and confirm that the set starts operation in a normal manner.</li> <li>(7) Connect the DC power supply (49V ± 1V) to 2-pin (X-ray2) and 3-pin (GND) at the connector CN10S1 on the MAIN PWB.</li> <li>(8) Confirm the horizontal oscillation is accordingly deactivated and no high voltage is being output.</li> <li>(9) Turn the MAIN power off and disconnect the DC power supply.</li> <li>(10) Turn the MAIN power on and confirm that the set starts operation in a normal manner.</li> <li>(11) Gently turn the SCREEN VR to the right until the crosshatch pattern appears.</li> </ul>

#### 4.8.4 FOCUS / CONVERGENCE ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
FOCUS / CONVERGENCE	Signal generator		FOCUS VR [FBT]	<ul style="list-style-type: none"> <li>This adjustment must be done after the B1 VOLTAGE adjustment.</li> <li>(1) Receive the NTSC crosshatch signal to INPUT A.</li> <li>(2) Adjust the FOCUS VR so that the vertical and horizontal lines will be clear and fine detail on the point specified in the left figure.</li> <li>(3) Receive the PAL crosshatch signal to INPUT A.</li> <li>(4) Adjust the FOCUS VR so that the vertical and horizontal lines will be clear and fine detail on the point specified in the left figure.</li> </ul> <p><b>CAUTION:</b>  <b>The FOCUS adjustment must be done before the WHITE BALANCE adjustment.</b>  <b>When the focus is adjusted after the WHITE BALANCE adjustment, the WHITE BALANCE adjustment must be re-done.</b></p> <li>(5) Receive the NTSC crosshatch signal to INPUT A.</li> <li>(6) Using 4-pole convergence magnets, overlap the red and blue lines in the centre of the screen and turn them to magenta (red/blue).</li> <li>(7) Using 6-pole convergence magnets, overlap the magenta (red/blue) and green lines in the centre of the screen and turn them to white.</li> <li>(8) Repeat (6) and (7) above, and make best convergence.</li>



#### 4.8.5 PURITY CORRECTION ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
PURITY CORRECTION	Signal generator		[DEFLECTION BLOCK] D[102] : PURITY (ROTATION / PURITY)	<ul style="list-style-type: none"> <li>This adjustment cancels the color heterogeneity (unevenness) on the screen by means of a corrective function.</li> <li>(1) Receive a single color signal (R, G, B or all-white) to INPUT A.</li> <li>(2) Select "DEFLECTION BLOCK" in the SERVICE MENU.</li> <li>(3) Adjust the &lt; D[102] &gt; value to cancel the heterogeneity.</li> </ul>

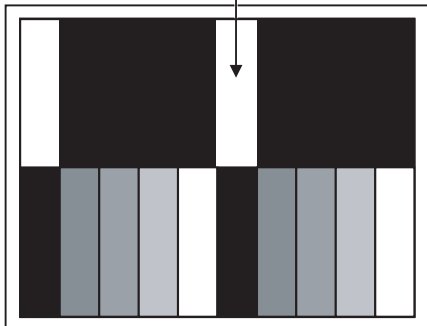


#### 4.8.6 VIDEO CIRCUIT ADJUSTMENTS

Item	Measuring instrument	Test point	Adjustment part	Description								
WHITE BALANCE LOW LIGHT	Signal generator		SCREEN VR [FBT]  [WHITE BALANCE BLOCK] W[W04] : R CUTOFF (COMMON HIGH) W[W05] : G CUTOFF (COMMON HIGH) W[W06] : B CUTOFF (COMMON HIGH) W[X04] : R CUTOFF (COMMON LOW) W[X05] : G CUTOFF (COMMON LOW) W[X06] : B CUTOFF (COMMON LOW)	<b>CAUTION:</b> <b>The values of &lt; W[W04] &gt; / &lt; W[W05] &gt; / &lt; W[W06] &gt; / &lt; W[X04] &gt; / &lt; W[X05] &gt; and &lt; W[X06] &gt; are set as the reference values. The settings for other adjusting items are therefore made as offset with respect to these reference values. In case these data are changed, all other subsequent signal data settings must be re-adjusted.</b> (1) Receive the NTSC all-white signal to INPUT A. (2) Select "WHITE BALANCE BLOCK" in the SERVICE MENU. (3) Set the < W[W04] > / < W[W05] > and < W[W06] > values to all "100". (4) Select either of < W[W04] > / < W[W05] > or < W[W06] > and press [CONTRAST/BRIGHT] key to show the horizontal-single line adjustment screen. (5) Turn the SCREEN VR to the right until the first color appears on the screen. (6) Increase the data other than the first color data until the horizontal-single line becomes white. (7) Gently turn the SCREEN VR until the horizontal lines faintly appear. (8) Press the [CONTRAST/BRIGHT] key to cancel the horizontal-single line adjustment screen. (9) Set the < W[X04] > / < W[X05] > and < W[X06] > data to the same value as that of < W[W04] > / < W[W05] > and < W[W06] > .								
<table><tr><th>Setting item</th><th>Setting value</th></tr><tr><td>W[W04] R CUTOFF</td><td>100</td></tr><tr><td>W[W05] G CUTOFF</td><td>100</td></tr><tr><td>W[W06] B CUTOFF</td><td>100</td></tr></table>				Setting item	Setting value	W[W04] R CUTOFF	100	W[W05] G CUTOFF	100	W[W06] B CUTOFF	100	
Setting item	Setting value											
W[W04] R CUTOFF	100											
W[W05] G CUTOFF	100											
W[W06] B CUTOFF	100											
WHITE BALANCE HIGH LIGHT (HIGH : D9300 / LOW : D6500)	Signal generator  Color analyzer (Color temperature meter)		[WHITE BALANCE BLOCK] W[W01] : R DRIVE (COMMON HIGH) W[W03] : B DRIVE (COMMON HIGH) W[X01] : R DRIVE (COMMON LOW) W[X03] : B DRIVE (COMMON LOW)	<ul style="list-style-type: none"><li>This adjustment must be performed after the WHITE BALANCE LOW LIGHT adjustment. (1) Receive the NTSC all-white signal to INPUT A. (2) Set COLOR TEMP. / BAL. in the SET UP MENU to "HIGH". (3) Select "WHITE BALANCE BLOCK" in the SERVICE MENU. (4) Adjust the &lt; W[W01] &gt; and &lt; W[W03] &gt; values so that the color analyzer reads the values shown in the table. (5) Confirm if the white balance for Low-Light and High-Light are properly set. (6) If the Low-Light is found deviated, re-adjust the WHITE BALANCE LOW LIGHT. (7) Repeat (4) to (6) until the tracking is achieved. (8) Set COLOR TEMP. / BAL. in the SET UP MENU to "LOW". (9) Adjust the &lt; W[X01] &gt; and &lt; W[X03] &gt; values so that the color analyzer reads the values specified in the table. (10) Confirm if the white balance for Low-Light and High-Light are properly set. (11) If the Low-Light is found deviated, re-adjust the WHITE BALANCE LOW LIGHT. (12) Repeat (10) to (11) until the tracking is achieved.</li></ul>								
<table><tr><th>Colour temperature</th><th>Adjustment value</th></tr><tr><td>HIGH : 9300K</td><td>X=0.283 Y=0.297</td></tr><tr><td>LOW : 6500K</td><td>X=0.313 Y=0.329</td></tr></table>				Colour temperature	Adjustment value	HIGH : 9300K	X=0.283 Y=0.297	LOW : 6500K	X=0.313 Y=0.329			
Colour temperature	Adjustment value											
HIGH : 9300K	X=0.283 Y=0.297											
LOW : 6500K	X=0.313 Y=0.329											

Item	Measuring instrument	Test point	Adjustment part	Description
SUB BRIGHT (HIGH / LOW)	Signal generator		[SIGNAL BLOCK] S[R02] : BRIGHT HIGH (COMMON) S[A02] : BRIGHT HIGH (NTSC) S[C02] : BRIGHT HIGH (PAL)	<ul style="list-style-type: none"> <li>This adjustment must be performed after the WHITE BALANCE LOW LIGHT adjustment.</li> </ul> <p><b>CAUTION:</b> The &lt; S[R02] &gt; value is set as the reference value. The setting for other adjusting items is therefore made as offset with respect to the reference value. When the reference value is changed, re-adjustments are needed for all relevant signals. When adjusting the NTSC only, perform the "NTSC BRIGHT" adjustment.</p> <p><b>SUB BRIGHT HIGH</b></p> <p><b>- SETTING THE REFERENCE VALUE -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the NTSC signal, carrying the brightness shades with 0% black included, to INPUT A.</li> <li>(2) Set COLOR TEMP. / BAL. in the SET UP MENU to "HIGH".</li> <li>(3) Set the SCAN SIZE to "NORMAL SCAN MODE".</li> <li>(4) Set ASPECT in the MAIN MENU to "4-3".</li> <li>(5) Select "SIGNAL BLOCK" in the SERVICE MENU.</li> <li>(6) Adjust the &lt; S[R02] &gt; value to set the 0% black portion to be black.</li> </ol> <p><b>- NTSC BRIGHT -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the NTSC signal, carrying the brightness shades with 0% black included, to INPUT A.</li> <li>(2) Adjust the &lt; S[A02] &gt; value to set the 0% black portion to be black.</li> </ol> <p><b>- PAL BRIGHT -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the PAL signal, carrying the brightness shades with 0% black included, to INPUT A.</li> <li>(2) Adjust the &lt; S[C02] &gt; value to set the 0% black portion to be black.</li> </ol>

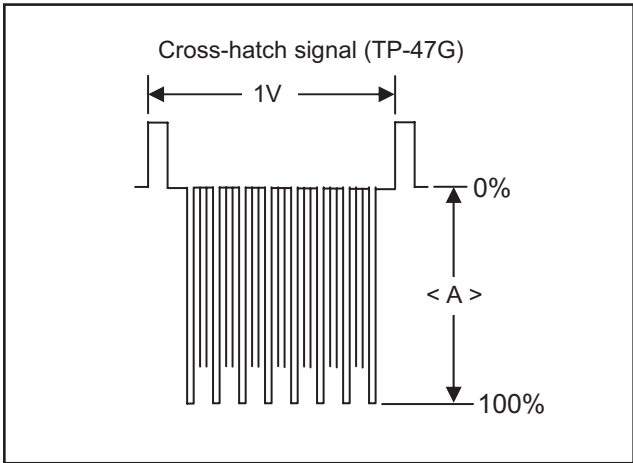
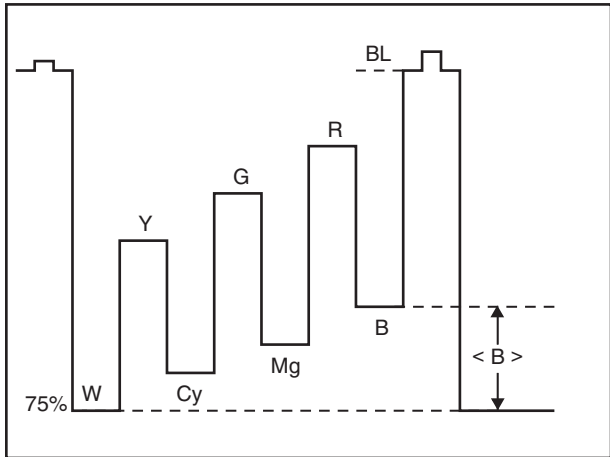
Set the 0% black portion to be black



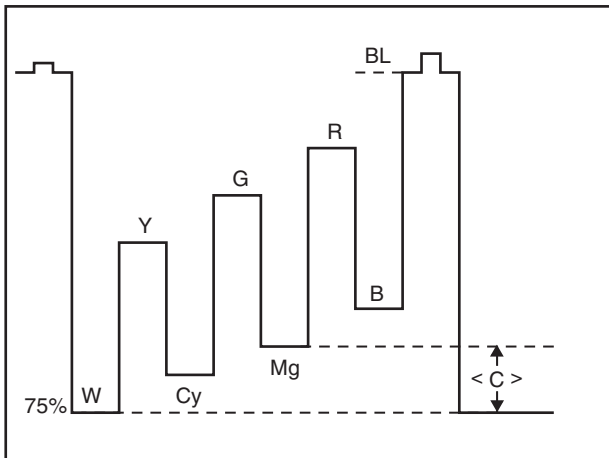
Input signal	BRIGHT HIGH	Adjustment data
NTSC	S[R02]	Reference value
NTSC	S[A02]	Offset value
PAL	S[C02]	Offset value

Input signal	BRIGHT LOW	Adjustment data
NTSC/PAL	S[R06]	Offset value

Item	Measuring instrument	Test point	Adjustment part	Description												
SUB CONTRAST	Signal generator  Oscilloscope	TP-47G TP-E (GND) [CRT SOCKET PWB]	[SIGNAL BLOCK] S[R01] : CONTRAST (COMMON) S[A01] : CONTRAST (NTSC) S[C01] : CONTRAST (PAL)	<p><b>CAUTION:</b> The &lt; S[R01] &gt; value is set as the reference value. The setting for other adjusting items is made as offset with respect to the reference value. When the reference value is changed, re-adjustments are needed for all relevant signals. When adjusting the NTSC only, perform the "NTSC CONTRAST" adjustment.</p> <p><b>- SETTING THE REFERENCE VALUE -</b></p> <p>(1) Receive the NTSC crosshatch signal with 100% white component included to INPUT A.</p> <p>(2) Connect the oscilloscope to TP-47G and TP-E (GND).</p> <p>(3) Select "SIGNAL BLOCK" in the SERVICE MENU.</p> <p>(4) Adjust the &lt; S[R01] &gt; value to set the &lt; A &gt; value in the left figure to 28V ± 2V.</p> <p><b>- NTSC CONTRAST -</b></p> <p>(1) Receive the NTSC crosshatch signal with 100% white component included to INPUT A</p> <p>(2) Adjust the &lt; S[A01] &gt; value to set the &lt; A &gt; value in the left figure to 28V ± 2V.</p> <p><b>- PAL CONTRAST -</b></p> <p>(1) (1) Receive the PAL crosshatch signal with 100% white component included to INPUT A.</p> <p>(2) Adjust the &lt; S[C01] &gt; value to set the &lt; A &gt; value in the left figure to 28V ± 2V.</p>												
<div><p>Cross-hatch signal (TP-47G)</p><table><thead><tr><th>Input signal</th><th>CONTRAST</th><th>Adjustment data</th></tr></thead><tbody><tr><td>NTSC</td><td>S[R01]</td><td>Reference value</td></tr><tr><td>NTSC</td><td>S[A01]</td><td>Offset value</td></tr><tr><td>PAL</td><td>S[C01]</td><td>Offset value</td></tr></tbody></table></div>					Input signal	CONTRAST	Adjustment data	NTSC	S[R01]	Reference value	NTSC	S[A01]	Offset value	PAL	S[C01]	Offset value
Input signal	CONTRAST	Adjustment data														
NTSC	S[R01]	Reference value														
NTSC	S[A01]	Offset value														
PAL	S[C01]	Offset value														
SUB COLOR	Signal generator  Oscilloscope	TP-47B TP-E (GND) [CRT SOCKET PWB]	[SIGNAL BLOCK] S[R03] : CHROMA (COMMON) S[A03] : CHROMA (NTSC) S[C03] : CHROMA (PAL)	<p>• This adjustment must be done after the SUB CONTRAST adjustment.</p> <p><b>CAUTION:</b> The &lt; S[R03] &gt; value is set as the reference value. The setting for the other adjusting items is made as offset with respect to the reference value. When the reference value is changed, re-adjustments are needed for all relevant signals. When adjusting the NTSC only, perform the "NTSC COLOR" adjustment.</p> <p><b>- SETTING THE REFERENCE VALUE -</b></p> <p>(1) Receive the NTSC color bar signal with 75% white component included to INPUT A.</p> <p>(2) Connect the oscilloscope to TP-47B and TP-E (GND).</p> <p>(3) Select "SIGNAL BLOCK" in the SERVICE MENU.</p> <p>(4) Adjust the &lt; S[R03] &gt; value to set the &lt; B &gt; value in the left figure to 0V ± 2V.</p> <p><b>- NTSC COLOR -</b></p> <p>(1) Receive the NTSC color bar signal with a 75% white component included to INPUT A.</p> <p>(2) Adjust the &lt; S[A03] &gt; value to set the &lt; B &gt; value in the left figure to 0V ± 2V.</p> <p><b>- PAL COLOR -</b></p> <p>(1) Receive the PAL color bar signal with a 75% white component included to INPUT A.</p> <p>(2) Adjust the &lt; S[C03] &gt; value to set the &lt; B &gt; value in the left figure to 0 V ± 2 V.</p>												
<div><table><thead><tr><th>Input signal</th><th>CHROMA</th><th>Adjustment data</th></tr></thead><tbody><tr><td>NTSC</td><td>S[R03]</td><td>Reference value</td></tr><tr><td>NTSC</td><td>S[A03]</td><td>Offset value</td></tr><tr><td>PAL</td><td>S[C03]</td><td>Offset value</td></tr></tbody></table></div>					Input signal	CHROMA	Adjustment data	NTSC	S[R03]	Reference value	NTSC	S[A03]	Offset value	PAL	S[C03]	Offset value
Input signal	CHROMA	Adjustment data														
NTSC	S[R03]	Reference value														
NTSC	S[A03]	Offset value														
PAL	S[C03]	Offset value														

Item	Measuring instrument	Test point	Adjustment part	Description
SUB PHASE	Signal generator  Oscilloscope	TP-47B TP-E (GND) [CRT SOCKET PWB]	[SIGNAL BLOCK] S[R04] : PHASE (COMMON) S[A04] : PHASE (NTSC)	<p>This adjustment must be done after the SUB CONTRAST adjustment.</p> <p><b>CAUTION:</b> The &lt; S[R04] &gt; value is set as the reference value. The settings for other adjusting items are made as offset with respect to the reference value. When the reference value is changed, re-adjustments are needed for all relevant signals. When adjusting the NTSC only, perform the "NTSC PHASE" adjustment.</p> <p><b>- SETTING THE REFERENCE VALUE -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the NTSC color bar signal with a 75% white component included to INPUT A.</li> <li>(2) Connect the oscilloscope to TP-47B and TP-E (GND).</li> <li>(3) Select "SIGNAL BLOCK" in the SERVICE MENU.</li> <li>(4) Adjust the &lt; S[R04] &gt; value to set the &lt; C &gt; value in the left figure to <math>0V \pm 2V</math>.</li> </ol> <p><b>- NTSC PHASE -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the NTSC color bar signal with a 75% white component included to INPUT A.</li> <li>(2) Adjust the &lt; S[A04] &gt; value to set the &lt; C &gt; value in the left figure to <math>0V \pm 2V</math>.</li> </ol>

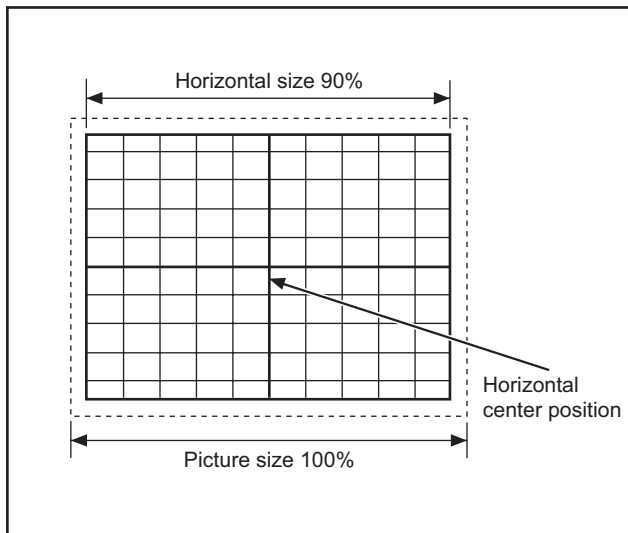


Input signal	PHASE	Adjustment data
NTSC	S[R04]	Reference value
NTSC	S[A04]	Offset value

#### 4.8.7 DEFLECTION CIRCUIT ADJUSTMENTS

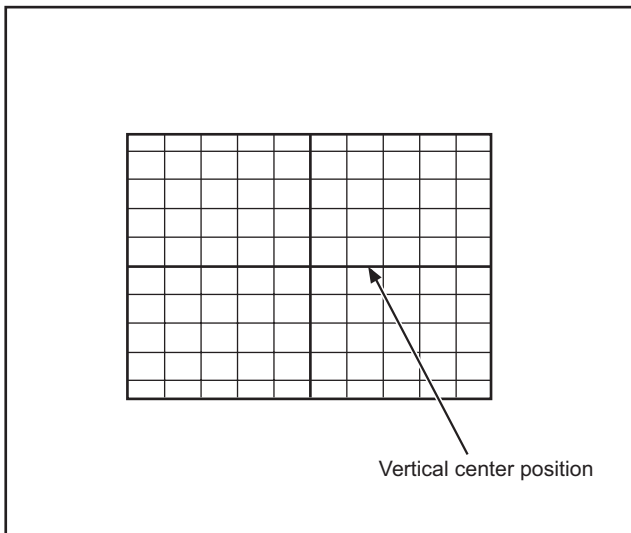
##### ■NORMAL SCAN MODE

Item	Measuring instrument	Test point	Adjustment part	Description
VIDEO H.POSITION / H.SIZE	Signal generator		[DEFLECTION BLOCK] D[201] : H.SIZE (COMMON) D[203] : H.POSITION (COMMON) D[A01] : H.SIZE (NTSC) D[A03] : H.POSITION (NTSC) D[C01] : H.SIZE (PAL) D[C03] : H.POSITION (PAL)	<ul style="list-style-type: none"> <li>This adjustment must be done after the SUB BRIGHT and SUB CONTRAST adjustments.</li> </ul> <p><b>CAUTION:</b> The &lt; D[201] &gt; and &lt; D203 &gt; values are set as the reference values. The setting for the other adjusting items is made as offset with respect to the reference values. When these values are changed, re-adjustments are needed for all relevant signals. When adjusting the NTSC only, perform the "NTSC H.POSITION / H.SIZE" adjustments.</p> <p><b>- SETTING THE REFERENCE VALUE -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the NTSC crosshatch signal to INPUT A and demagnetize the monitor display.</li> <li>(2) Select "DEFLECTION BLOCK" in the SERVICE MENU.</li> <li>(3) Adjust the &lt; D[203] &gt; value to set the position at the horizontal picture center.</li> <li>(4) Adjust the &lt; D[201] &gt; value to set the horizontal screen size to 90% of the picture size.</li> <li>(5) If the position is found deviated from the horizontal picture center, re-adjust the H.POSITION and H.SIZE.</li> </ol> <p><b>- NTSC H.POSITION / H.SIZE -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the NTSC crosshatch signal to INPUT A.</li> <li>(2) Adjust the &lt; D[A03] &gt; value to set the position at the horizontal picture center.</li> <li>(3) Adjust the &lt; D[A01] &gt; value to set the horizontal screen size to 90% of the picture size.</li> <li>(4) If the position is found deviated from the horizontal picture center, re-adjust the H.POSITION and H.SIZE.</li> </ol> <p><b>- PAL H.POSITION / H.SIZE -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the PAL crosshatch signal to INPUT A.</li> <li>(2) Adjust the &lt; D[C03] &gt; value to set the position at the horizontal picture center.</li> <li>(3) Adjust the &lt; D[C01] &gt; value to set the horizontal screen size to 90% of the picture size.</li> <li>(4) If the position is found deviated from the horizontal picture center, re-adjust the H.POSITION and H.SIZE.</li> </ol>

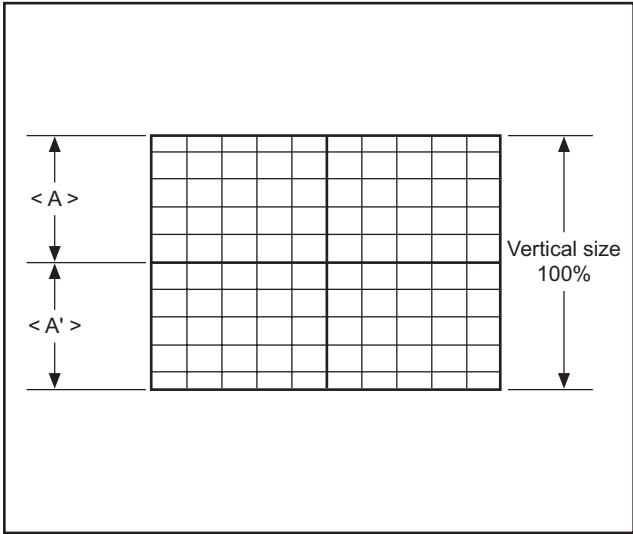


Input signal	H.SIZE	H.POSITION	Adjustment data
NTSC	D[201]	D[203]	Reference value
NTSC	D[A01]	D[A03]	Offset value
PAL	D[C01]	D[C03]	Offset value

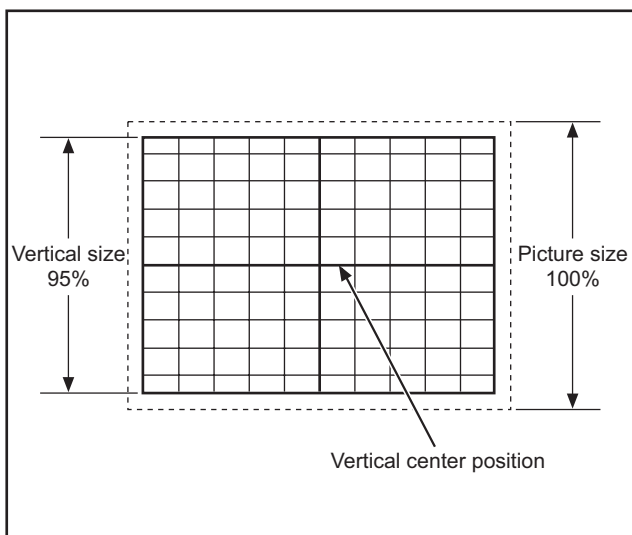
Item	Measuring instrument	Test point	Adjustment part	Description
VIDEO V.POSITION / ROTATION	Signal generator		[DEFLECTION BLOCK] D[204] : V.POSITION (COMMON) D[101] : ROTATION (ROTATION/PURITY) D[A04] : V.POSITION (NTSC) D[C04] : V.POSITION (PAL)	<ul style="list-style-type: none"> <li>This adjustment must be done after the SUB BRIGHT and SUB CONTRAST adjustments.</li> </ul> <p><b>CAUTION:</b> The &lt; D[204] &gt; value is set as the reference value. The setting for the other adjusting items is made as offset with respect to the reference value. When the reference value is changed, re-adjustments are needed for all relevant signals. When adjusting the NTSC only, perform the "NTSC V.POSITION" adjustment</p> <p><b>- SETTING THE REFERENCE VALUE -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the NTSC crosshatch signal to INPUT A.</li> <li>(2) Select "DEFLECTION BLOCK" in the SERVICE MENU.</li> <li>(3) Adjust the &lt; D[204] &gt; value to set the position at the vertical picture center.</li> <li>(4) If the entire screen display is found tilted, adjust &lt; D[101] &gt; for correction. (Rotation correction)</li> </ol> <p><b>NOTE:</b> The rotation correction is made for the reference value setting only.</p> <p><b>- NTSC V.POSITION -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the NTSC crosshatch signal to INPUT A.</li> <li>(2) Adjust the &lt; D[A04] &gt; value to set the position at the vertical picture center.</li> </ol> <p><b>- PAL V.POSITION -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the PAL crosshatch signal to INPUT A.</li> <li>(2) Adjust the &lt; D[C04] &gt; value to set the position at the vertical picture center.</li> </ol>



Input signal	V.POSITION	Adjustment data
NTSC	D[204]	Reference value
NTSC	D[A04]	Offset value
PAL	D[C04]	Offset value

Item	Measuring instrument	Test point	Adjustment part	Description
V. LINEARITY	Signal generator		[DEFLECTION BLOCK] D[202] : V.SIZE (COMMON) D[212] : V.LINEARITY (C CORRECTION) (COMMON) D[211] : V.LINEARITY (S CORRECTION) (COMMON)	<ul style="list-style-type: none"> <li>This adjustment must be done after the SUB BRIGHT and SUB CONTRAST adjustments.</li> <li>(1) Receive the NTSC crosshatch signal to INPUT A.</li> <li>(2) Select "DEFLECTION BLOCK" in the SERVICE MENU.</li> <li>(3) Adjust the &lt; D[202] &gt; value to set the vertical screen size to 100% of the picture size.</li> <li>(4) Adjust the &lt; D[212] &gt; value to set the crosshatch pattern of the upper and lower to be equal; &lt; A &gt; = &lt; A' &gt;.</li> <li>(5) Adjust the &lt; D[211] &gt; value to set each crosshatch grid to be vertically equal in size in &lt; A &gt; and &lt; A' &gt; portions.</li> </ul>
				

Item	Measuring instrument	Test point	Adjustment part	Description
V.SIZE (4:3)	Signal generator		[DEFLECTION BLOCK] D[202] : V.SIZE (COMMON) D[A02] : V.SIZE (NTSC) D[C02] : V.SIZE (PAL)	<ul style="list-style-type: none"> <li>This adjustment must be done after the SUB BRIGHT and SUB CONTRAST adjustments.</li> </ul> <p><b>CAUTION:</b> The &lt; D[202] &gt; value is set as the reference value. The settings for other adjusting items are made as offset with respect to the reference value. When the reference value is changed, re-adjustments are needed for all relevant signals. When adjusting the NTSC only, perform the "NTSC V.SIZE" adjustment.</p> <p><b>- SETTING THE REFERENCE VALUE -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the NTSC crosshatch signal to INPUT A.</li> <li>(2) Select "DEFLECTION BLOCK" in the SERVICE MENU.</li> <li>(3) Adjust the &lt; D[202] &gt; value to set the vertical screen size to 95% of the picture size.</li> <li>(4) If the position is found deviated from the vertical picture center, re-adjust the V.POSITION and V.SIZE.</li> </ol> <p><b>- NTSC V.SIZE -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the NTSC crosshatch signal to INPUT A.</li> <li>(2) Adjust the &lt; D[A02] &gt; value to set the vertical screen size to 95% of the picture size.</li> <li>(3) If the position is found deviated from the vertical picture center, re-adjust the V.POSITION and V.SIZE.</li> </ol> <p><b>- PAL V.SIZE -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the PAL crosshatch signal to INPUT A.</li> <li>(2) Adjust the &lt; D[C02] &gt; value to set the vertical screen size to 95% of the picture size.</li> <li>(3) If the position is found deviated from the vertical picture center, re-adjust the V.POSITION and V.SIZE.</li> </ol>



Input signal	H.SIZE	Adjustment data
NTSC	D[202]	Reference value
NTSC	D[A02]	Offset value
PAL	D[C02]	Offset value

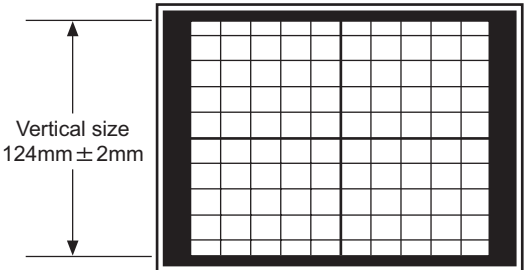


# ■UNDER SCAN MODE

Item	Measuring instrument	Test point	Adjustment part	Description
VIDEO H. POSITION / H. SIZE / PARALLEL / TRAPEZIUM	Signal generator		[DEFLECTION BLOCK] D[B01] : H.SIZE (NTSC-UNDER) D[B03] : H.POSITION (NTSC-UNDER) D[208] : PARALLEL (COMMON) D[209] : TRAPEZONTAL (COMMON) D[B08] : PARALLEL (NTSC-UNDER) D[B09] : TRAPEZONTAL (NTSC-UNDER) D[D01] : H.SIZE (PAL-UNDER) D[D03] : H.POSITION (PAL-UNDER) D[D08] : PARALLEL (PAL-UNDER) D[D09] : TRAPEZONTAL (PAL-UNDER)	<ul style="list-style-type: none"><li>• This adjustment must be made after the NORMAL SCAN MODE adjustments.</li></ul> <p><b>CAUTION:</b> The &lt; D[208] &gt; and &lt; D[209] &gt; values are set as the reference values. The settings for other adjusting items are made as offset with respect to the reference value. When reference values is changed, re-adjustments are needed for all relevant signals. When adjusting the NTSC only, perform the "NTSC H. POSITION / H. SIZE / PARALLEL / TRAPEZIUM" adjustment.</p> <p><b>- SETTING THE REFERENCE VALUE -</b></p> <ol style="list-style-type: none"><li>(1) Receive the NTSC crosshatch signal to INPUT A.</li><li>(2) Press the [SCAN SIZE] key to set SCAN SIZE to "UNDER SCAN MODE".</li><li>(3) Select "DEFLECTION BLOCK" in the SERVICE MENU.</li><li>(4) Adjust the &lt; D[208] &gt; value to correct parallelogram distortion.</li><li>(5) Adjust the &lt; D[209] &gt; value to correct trapezium distortion.</li></ol> <p><b>- NTSC H. POSITION / H. SIZE / PARALLEL / TRAPEZIUM -</b></p> <ol style="list-style-type: none"><li>(1) Receive the NTSC crosshatch signal to INPUT A.</li><li>(2) Adjust the &lt; D[B03] &gt; value to set the position at the horizontal picture center.</li><li>(3) Adjust the &lt; D[B01] &gt; value to set the horizontal screen size to 165mm ± 2mm.</li><li>(4) Adjust the &lt; D[B08] &gt; value to correct parallelogram distortion.</li><li>(5) Adjust the &lt; D[B09] &gt; value to correct trapezium distortion.</li><li>(6) If the raster fly-back is observed, re-adjust the &lt; D[B03] &gt; value to set the horizontal blanking width not less than 3mm.</li></ol> <p><b>- PAL H. POSITION / H. SIZE / PARALLEL / TRAPEZIUM -</b></p> <ol style="list-style-type: none"><li>(1) Receive the PAL crosshatch signal to INPUT A.</li><li>(2) Adjust the &lt; D[D03] &gt; value to set the position at the horizontal picture center.</li><li>(3) Adjust the &lt; D[D01] &gt; value to set the horizontal screen size to 165mm ± 2mm.</li><li>(4) Adjust the &lt; D[D08] &gt; value to correct parallelogram distortion.</li><li>(5) Adjust the &lt; D[D09] &gt; value to correct trapezium distortion.</li><li>(6) If the raster fly-back is observed, re-adjust the &lt; D[D03] &gt; value to set the horizontal blanking width not less than 3mm.</li></ol>

Input signal	H.SIZE	H.POSITION	PARALLEL	TRAPEZONTAL	Adjustment data
NTSC	---	---	D[208]	D[209]	Reference value
NTSC-UNDER	D[B01]	D[B03]	D[B08]	D[B09]	Offset value
PAL-UNDER	D[D01]	D[D03]	D[D08]	D[D09]	Offset value

Item	Measuring instrument	Test point	Adjustment part	Description
V.SIZE (4:3)	Signal generator		[DEFLECTION BLOCK] D[B02] : V.SIZE (NTSC-UNDER) D[D02] : V.SIZE (PAL-UNDER)	<ul style="list-style-type: none"> <li>This adjustment must be made after the NORMAL SCAN MODE adjustments.</li> </ul> <p><b>- NTSC V.SIZE -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the NTSC crosshatch signal to INPUT A.</li> <li>(2) Press the [SCAN SIZE] key to set SCAN SIZE to "UNDER SCAN MODE".</li> <li>(3) Select "DEFLECTION BLOCK" in the SERVICE MENU.</li> <li>(4) Adjust the &lt; D[B02] &gt; value to set the vertical screen size to 124mm ± 2mm.</li> </ol> <p><b>- PAL V.SIZE -</b></p> <ol style="list-style-type: none"> <li>(1) Receive the PAL crosshatch signal to INPUT A.</li> <li>(2) Adjust the &lt; D[D02] &gt; value to set the vertical screen size to 124mm ± 2mm.</li> </ol>



Input signal	H.SIZE	Adjustment data
NTSC-UNDER	D[B02]	Offset value
PAL-UNDER	D[D02]	Offset value



## SECTION 5 TROUBLESHOOTING

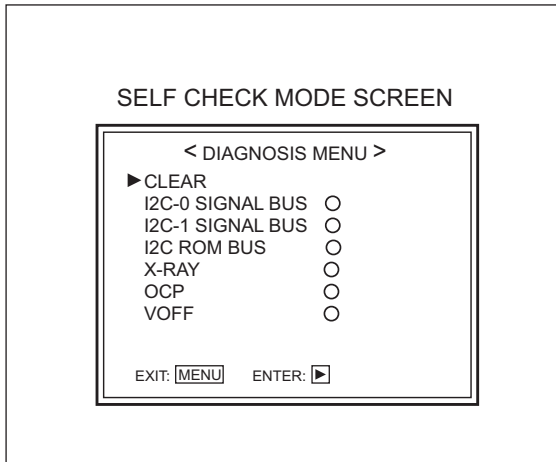
### 5.1 SELF CHECK FEATURE

#### 5.1.1 OUTLINE

This unit comes with the "Self check" feature, which checks the operational state of the circuit and displays/saves it during failure. Diagnosis is performed when power is turned on, and information input to the main microcomputer is monitored at all time. Diagnosis is displayed in 2 ways via screen display and LED flashes. Failure detection is based on input state of I<sup>2</sup>C bus and the various control lines connected to the main microcomputer.

#### 5.1.2 HOW TO ENTER THE SELF CHECK MODE

- (1) Press the [▼] key and [MARKER] key simultaneously.  
The  mark appears on the screen.
- (2) Before the  mark disappears (within 5 seconds after it appears), press the [▼] key and [CHROMA/PHASE] key simultaneously.  
The warning message "**Please don't touch!**" appears on the screen.
- (3) Before the warning message disappears (within 5 seconds after it appears), press the [▶] key.  
The SERVICE MENU appears on the display.
- (4) With the SERVICE MENU displayed, press [▼] key to select the "DIAGNOSIS", then press [▶] key to enter the SELF CHECK MODE.



#### 5.1.3 HOW TO EXIT THE SELF CHECK MODE

- (1) Press the [MENU] key to return to the SERVICE MENU.
- (2) Press the [MENU] key again to return to the normal screen.

#### 5.1.4 HOW TO CLEAR FAILURE HISTORY

With the SELF CHECK MODE displayed, select the "CLEAR", and select the "YES" reset failure history.

#### 5.1.5 FAILURE HISTORY

Failure history can be counted up to 9 times for each item. When the number exceeds 9, display will remain as 9. Failure history will be stored in the memory unless it has been deleted.

#### 5.1.6 POINTS TO NOTE WHEN USING THE SELF CHECK FEATURE

In addition to circuit failures (abnormal operation), the following cases may also be ignored as "Abnormal" and displayed and counted as "NG".

- (1) Temporary defective transmissions across circuits due to pulse interruptions
- (2) Misalignment in the on/off timing of power for I<sup>2</sup>C bus (VCC) when turning on/off the main power.

Diagnosis may be impeded if a large number of items are displayed as "NG". As such, start Self check check only after 3 seconds in the case of receivers and 5 seconds in the case of panels upon turning on the power. If recurrences are expected, ensure to clear (reset) the failure history and record the new diagnosis results.

### 5.1.7 METHOD OF DISPLAY WHEN A RASTER IS NOT OUTPUT

In the state where a raster is not output by breakdown of the set, an error is displayed by blink of the INPUT SIGNAL LED.

Detection item	Detection content	Diagnosis signal (line)	Flash LED	LED flash cycle
I <sup>2</sup> C-0 SIGNAL BUS	Confirmation of reply of ACK signal which uses I <sup>2</sup> C bus (Deflection IC) communication. [MAIN PWB : IC1571 / IC1951]	SDA0	INPUT A	Turnig on and off at 0.25 second intervals.
I <sup>2</sup> C-1 SIGNAL BUS	Confirmation of reply of ACK signal which uses I <sup>2</sup> C bus (Signal IC) communication. [INPUT PWB : IC6101 / IC6601 / IC6501 / IC6808]	SDA1	INPUT A	Turnig on and off at 1.0 second intervals.
I <sup>2</sup> C ROM BUS	Confirmation of reply of ACK signal which uses I <sup>2</sup> C bus (Main memory IC) communication. [INPUT PWB : IC6807]	SDA2	INPUT A	Turnig on and off at 0.5 second intervals.
X-RAY	Confirm the operation of the X-ray protection circuit. [MAIN PWB : D1571 / D1572]	X_RAY	INPUT B	Turnig on and off at 0.5 second intervals.
OCP	Confirm the operation of the over-current protection circuit. [MAIN PWB : Q1954]	OCP	DC INDICATOR	Green LED turning on and off at 0.5 second intervals.
VOFF	Confirm the operation of the CRT neck-bleak prevention circuit. [MAIN : IC1452]	V_OFF_DET	DC INDICATOR	Red LED turning on and off at 0.5 second intervals.

#### < Explanation of operation >

If error is detected, the power is turned off.

Shortly after a power is turned off, INPUT SIGNAL LED will be blinked.

Power cannot be turned on until the power cord takes out and inserts, after a power is turned off.



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AV & MULTIMEDIA COMPANY DISPLAY CATEGORY 12, 3-chome, Moriya-cho, Kanagawa-ku, Yokohama-city, Kanagawa-prefecture, 221-8528, Japan

(No.YA374)



Printed in Japan  
VPT

# TM-1011G/C, TM-1011G/E, TM-1011G/U

## STANDARD CIRCUIT DIAGRAM

### ■ NOTE ON USING CIRCUIT DIAGRAMS

#### 1.SAFETY

The components identified by the  $\triangle$  symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

#### 2.SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- (1)Input signal : Colour bar signal
- (2)Setting positions of each knob/button and variable resistor : Original setting position when shipped
- (3)Internal resistance of tester : DC 20k $\Omega$ /V
- (4)Oscilloscope sweeping time : H  $\Rightarrow$  20 $\mu$ s / div  
: V  $\Rightarrow$  5ms / div  
: Others  $\Rightarrow$  Sweeping time is specified
- (5)Voltage values : All DC voltage values

\* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

#### 3.INDICATION OF PARTS SYMBOL [EXAMPLE]

- In the PW board : R1209  $\rightarrow$  R209

#### 4.INDICATIONS ON THE CIRCUIT DIAGRAM

##### (1)Resistors

###### ● Resistance value

- No unit : [ $\Omega$ ]
- K : [k $\Omega$ ]
- M : [M $\Omega$ ]

###### ● Rated allowable power

- No indication : 1/16 [W]
- Others : As specified

###### ● Type

- No indication : Carbon resistor
- OMR : Oxide metal film resistor
- MFR : Metal film resistor
- MPR : Metal plate resistor
- UNFR : Uninflammable resistor
- FR : Fusible resistor

\* Composition resistor 1/2 [W] is specified as 1/2S or Comp.

##### (2)Capacitors

###### ● Capacitance value

- 1 or higher : [pF]
- less than 1 : [ $\mu$ F]

###### ● Withstand voltage

- No indication : DC50[V]
- Others : DC withstand voltage [V]
- AC indicated : AC withstand voltage [V]

\* Electrolytic Capacitors

47/50[Example]: Capacitance value [ $\mu$ F]/withstand voltage[V]

###### ● Type

- No indication : Ceramic capacitor
- MM : Metalized mylar capacitor
- PP : Polypropylene capacitor
- MPP : Metalized polypropylene capacitor
- MF : Metalized film capacitor
- TF : Thin film capacitor
- BP : Bipolar electrolytic capacitor
- TAN : Tantalum capacitor

##### (3)Coils

- No unit : [ $\mu$ H]
- Others : As specified

##### (4)Power Supply




-  : B1
-  : B2 (12V)
-  : 9V
-  : 5V

\* Respective voltage values are indicated





##### (5)Test point

-  : Test point
-  : Only test point display



##### (6)Connecting method

-  : Connector
-  : Wrapping or soldering
-  : Receptacle

##### (7)Ground symbol

-  : LIVE side ground
-  : ISOLATED(NEUTRAL) side ground
-  : EARTH ground
-  : DIGITAL ground

### 5.NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : () side GND and the ISOLATED(NEUTRAL) : () side GND. Therefore, care must be taken for the following points.

- (1)Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. if the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
- (2)Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus measure with a measuring apparatus ( oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.

◆ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

#### NOTE

◆ Due improvement in performance, some part numbers show in the circuit diagram may not agree with those indicated in the part list.

When ordering parts, please use the numbers that appear in the Parts List.

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USING P.W. BOARD

PWB ASS'Y name	TM-1011G/C	TM-1011G/E	TM-1011G/U
SIGNAL P.W. BOARD	FX-6152A-H2	←	←
MAIN P.W. BOARD	FX-1192A-H2	←	←
CRT SOCKET P.W. BOARD	FX-3078A-H2	←	←
FRONT CONTROL P.W. BOARD	FX-4097A-H2	←	←
TALLY P.W. BOARD	FX-7060A-H2	←	←
LINE FILTER P.W. BOARD	FX-9097A-H2	←	←
DC INPUT P.W. BOARD	FX-8035A-H2	←	←

SEMICONDUCTOR SHAPES

TRANSISTOR

BOTTOM VIEW	FRONT VIEW			TOP VIEW
				CHIP TR 

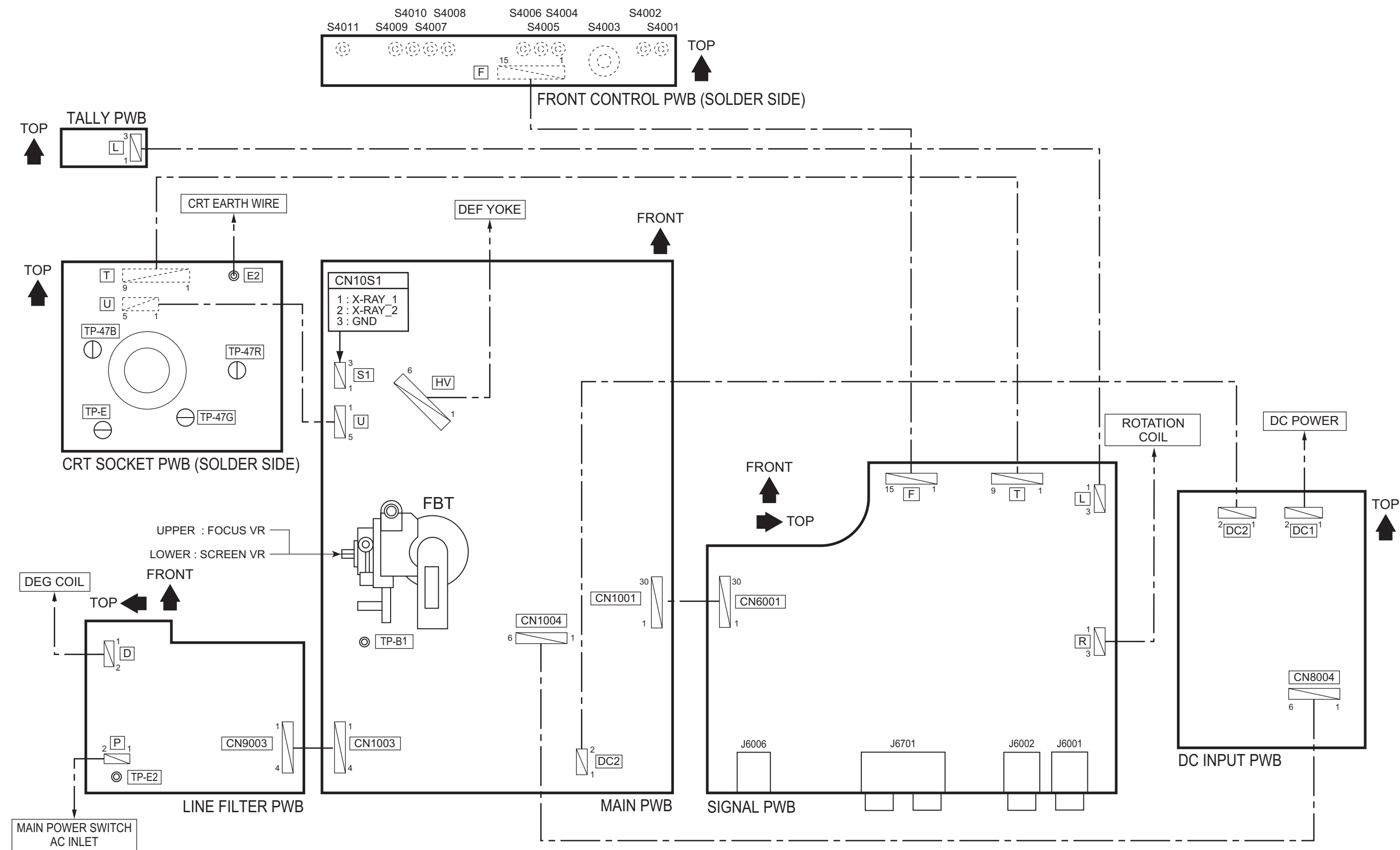
IC

BOTTOM VIEW	FRONT VIEW			TOP VIEW

CHIP IC

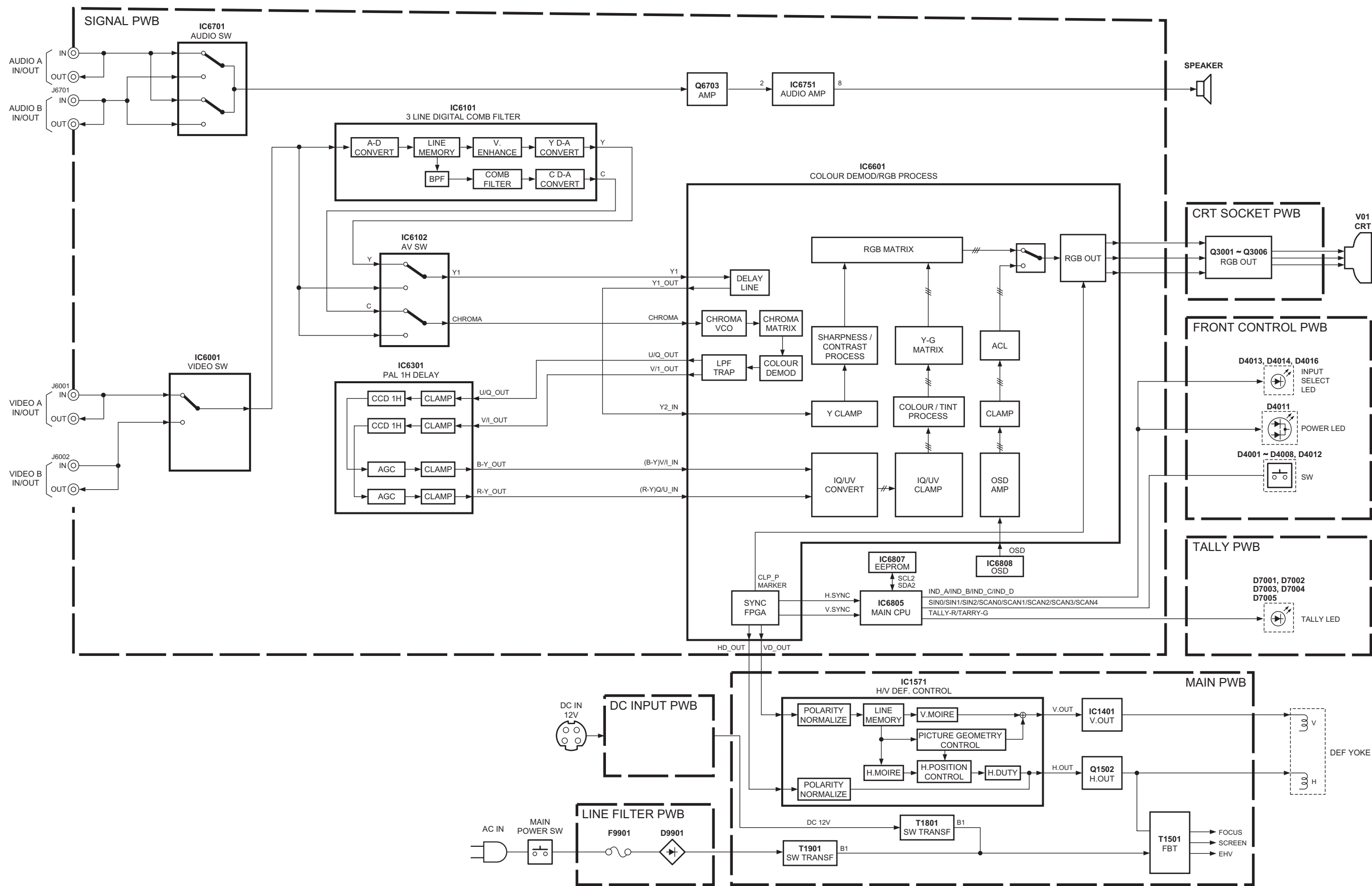
TOP VIEW		

WIRING DIAGRAM

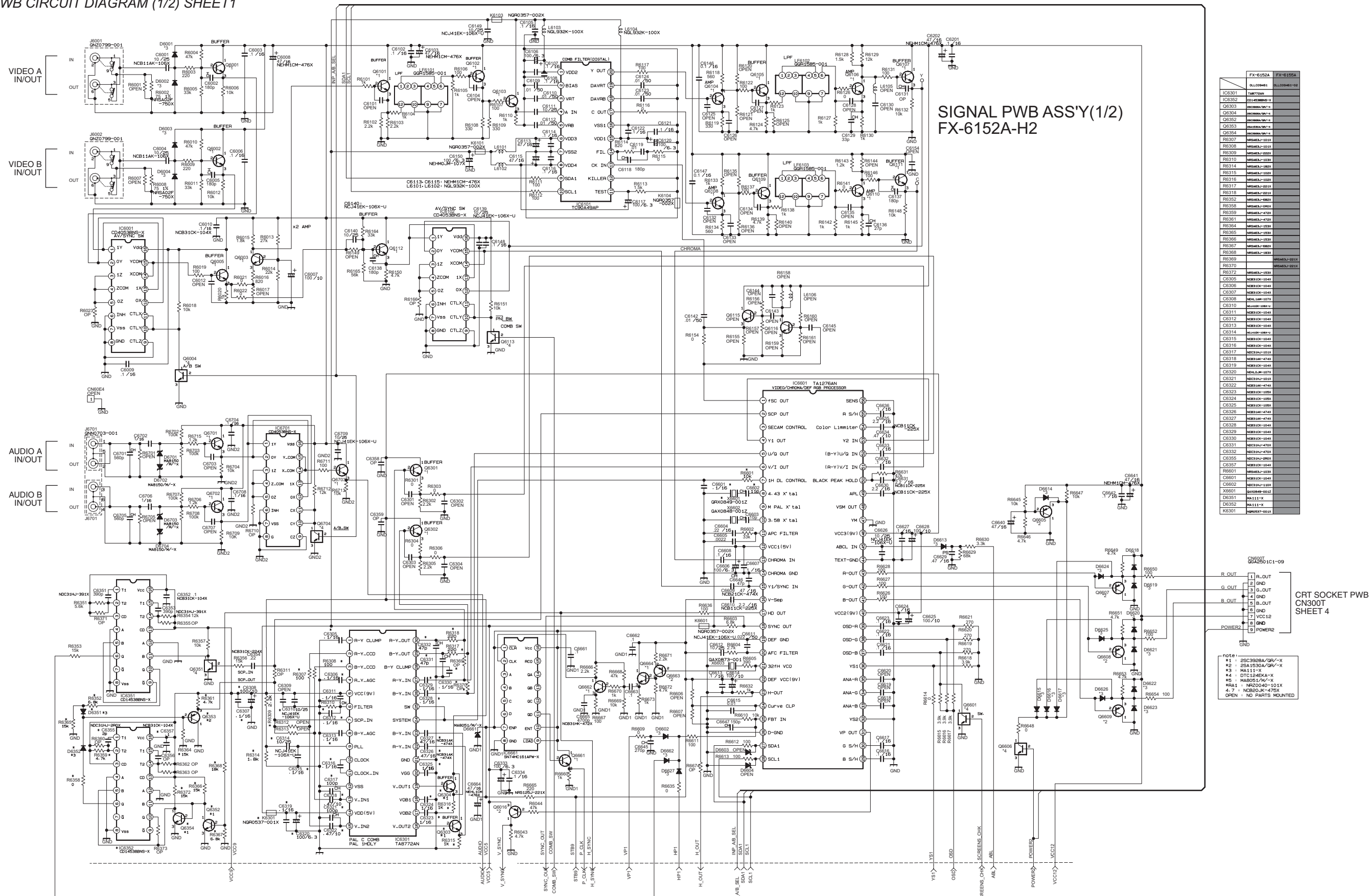




BLOCK DIAGRAM



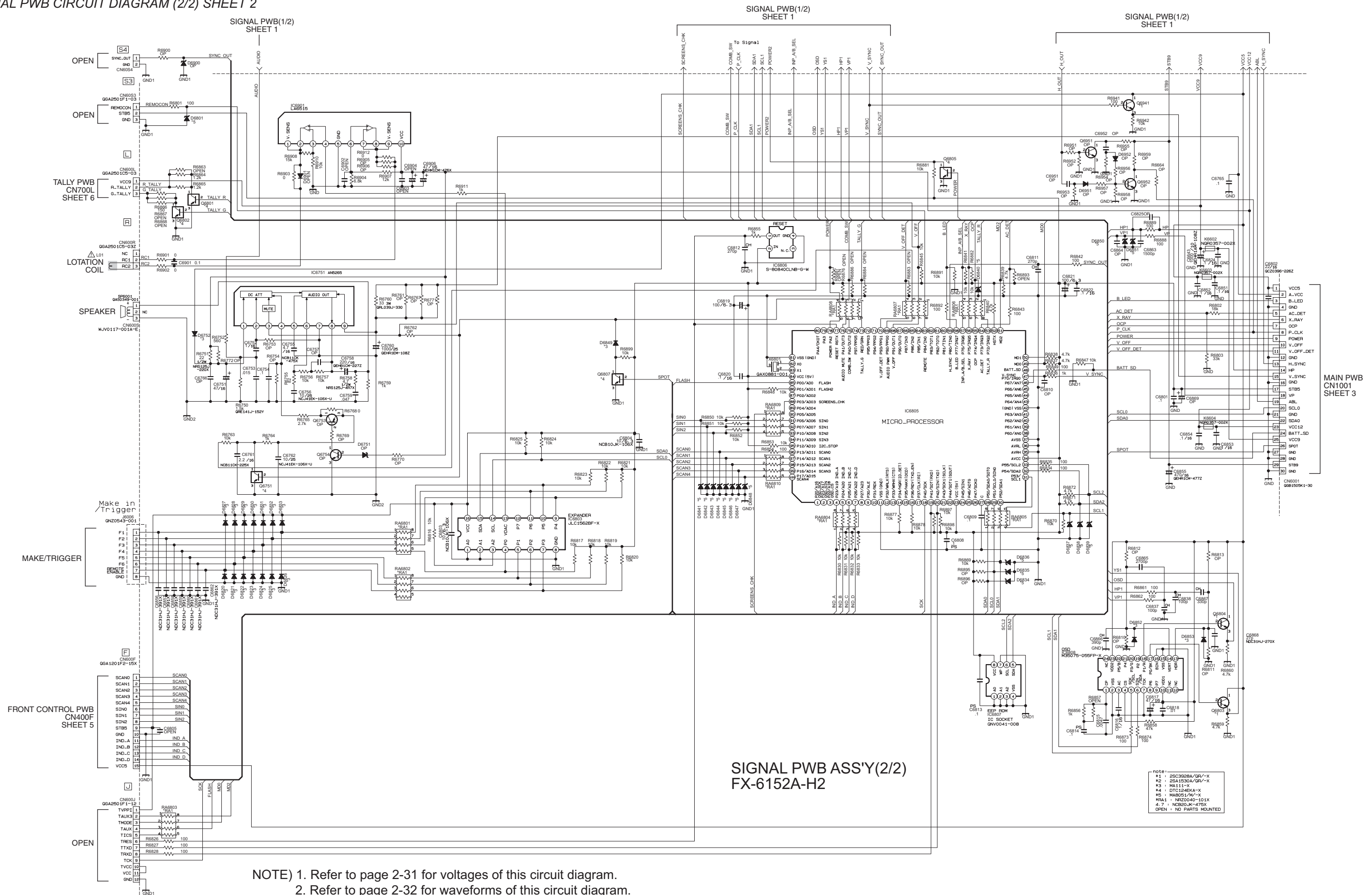
CIRCUIT DIAGRAMS  
SIGNAL PWB CIRCUIT DIAGRAM (1/2) SHEET 1



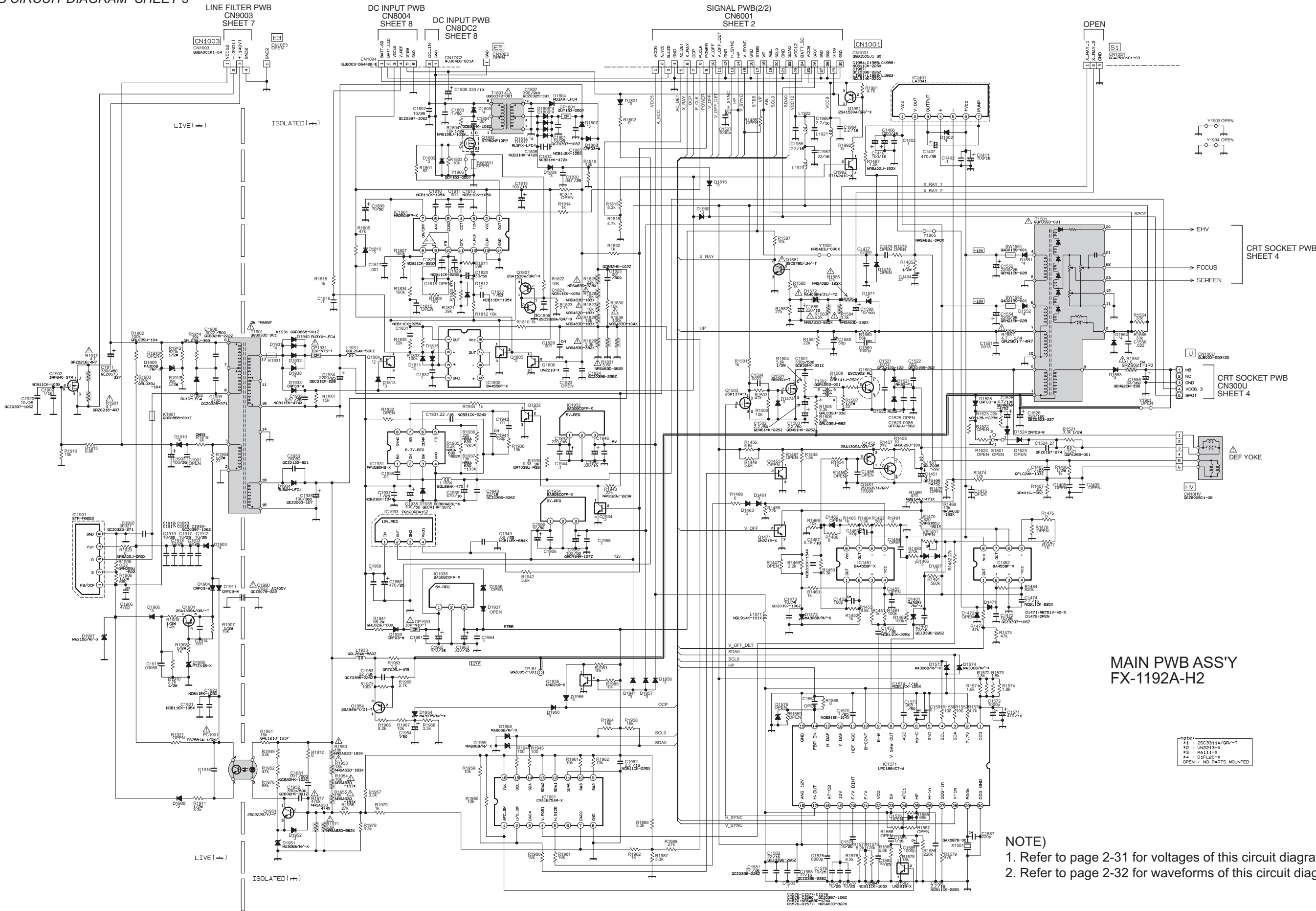
NOTE) 1. Refer to page 2-31 for voltages of this circuit diagram.  
2. Refer to page 2-32 for waveforms of this circuit diagram.

SIGNAL PWB(2/2)  
SHEET 2

SIGNAL PWB(2/2)  
SHEET 2



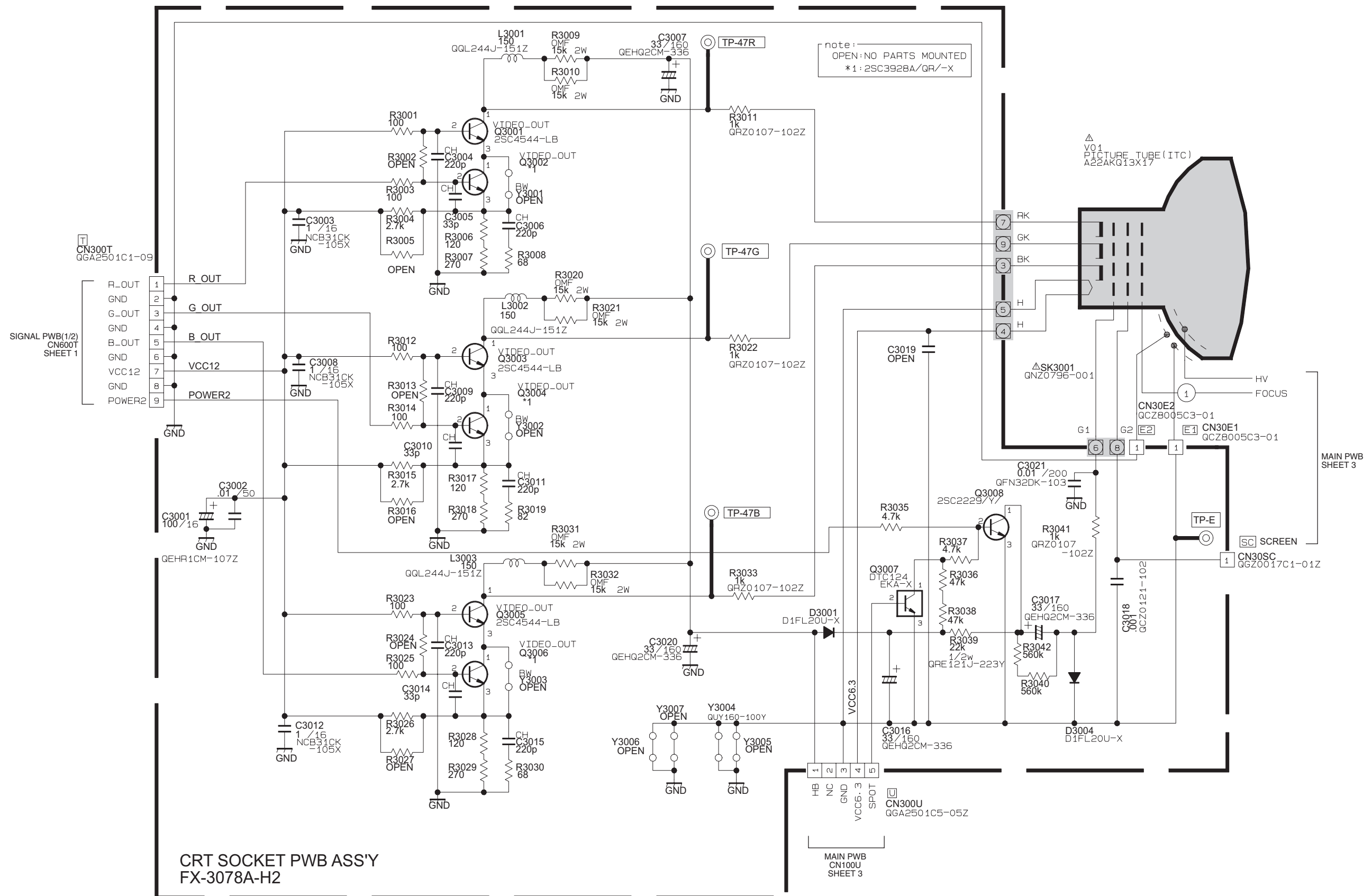
NOTE) 1. Refer to page 2-31 for voltages of this circuit diagram.  
2. Refer to page 2-32 for waveforms of this circuit diagram.  
3. Refer to the part list for the part number of IC6805 and IC6807.



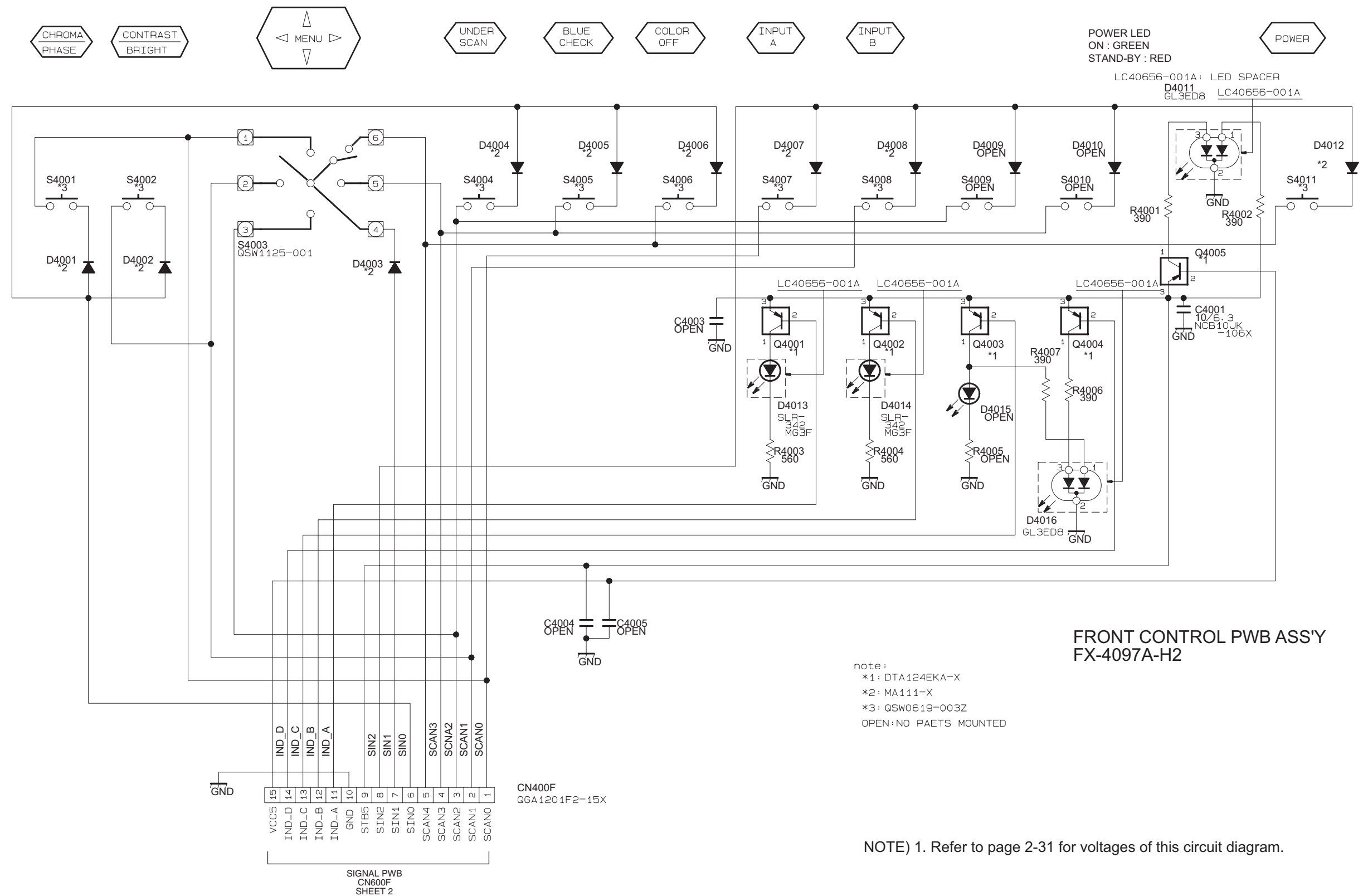
MAIN PWB ASS'Y  
FX-1192A-H2

NOTE)  
1. Refer to page 2-31 for voltages of this circuit diagram.  
2. Refer to page 2-32 for waveforms of this circuit diagram.



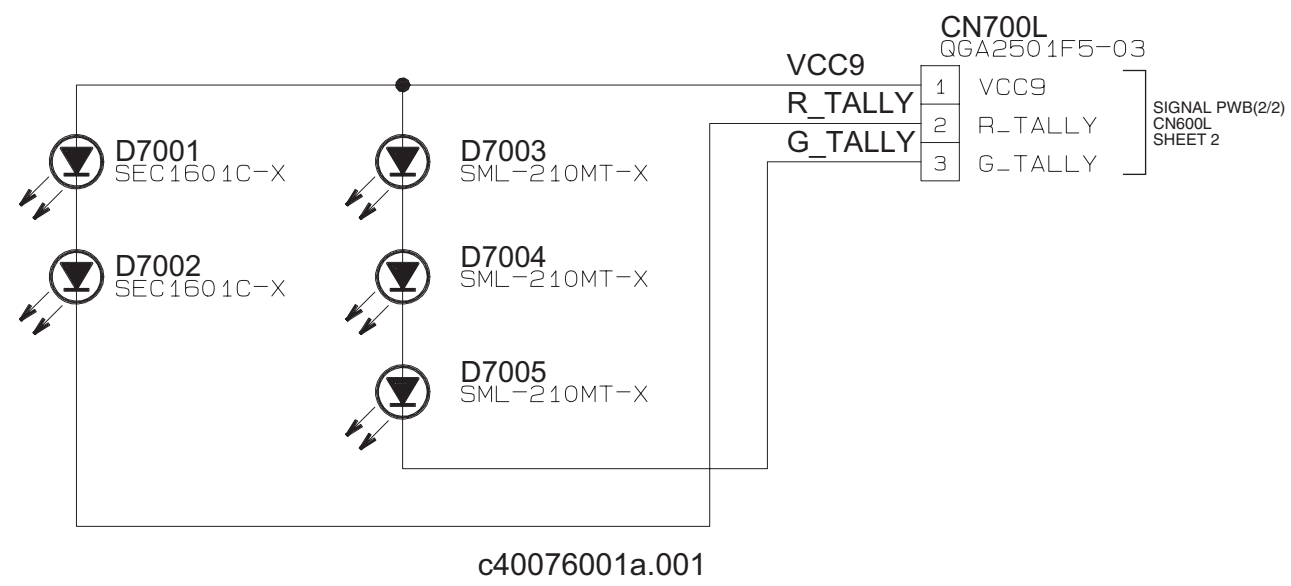


NOTE) 1. Refer to page 2-31 for voltages of this circuit diagram.  
2. Refer to page 2-32 for waveforms of this circuit diagram.

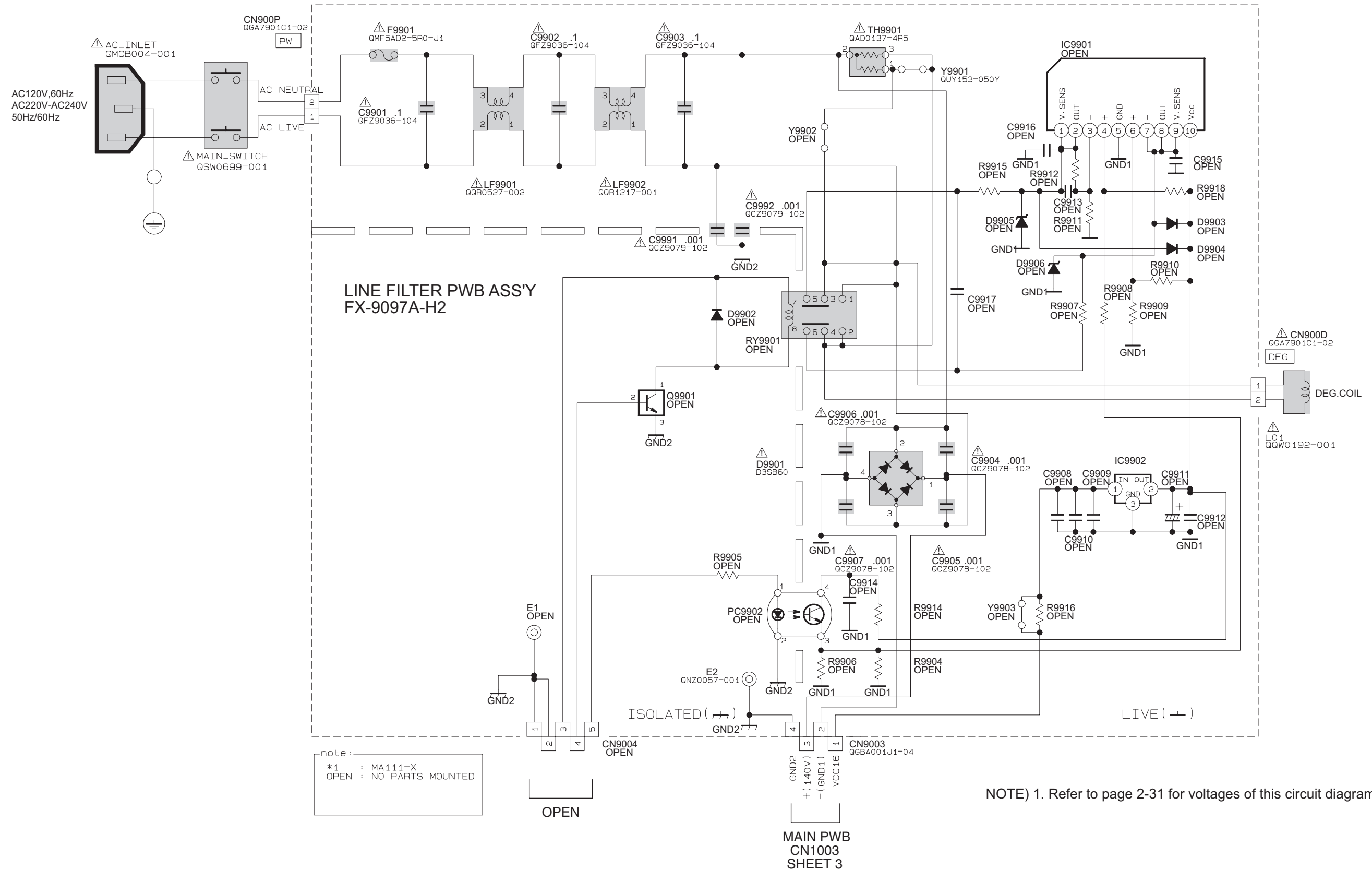


note:  
\*1: DTA124EKA-X  
\*2: MA111-X  
\*3: QSW0619-003Z  
OPEN:NO PAETS MOUNTED

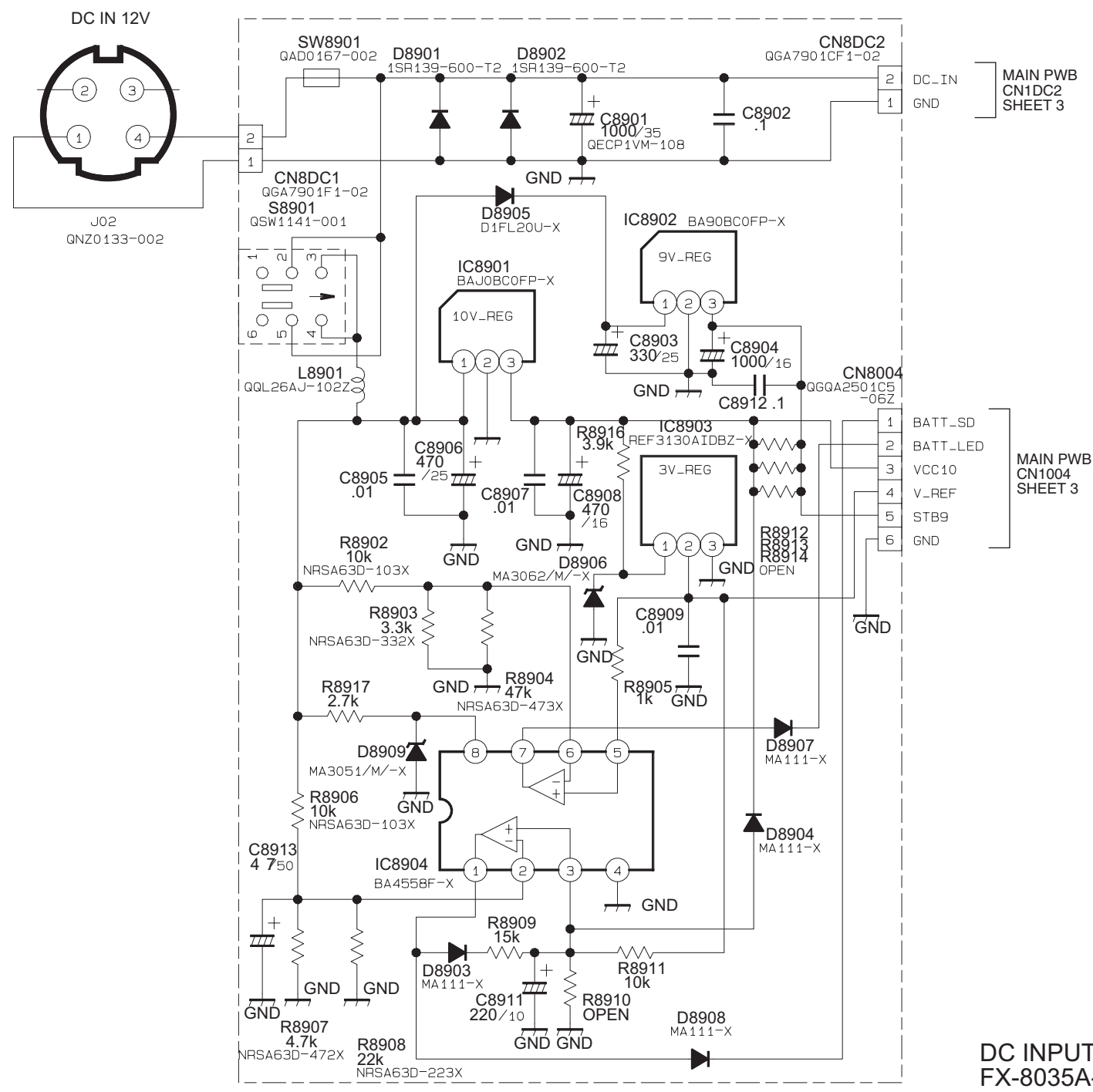
NOTE) 1. Refer to page 2-31 for voltages of this circuit diagram.



TALLY PWB ASS'Y  
FX-7060A-H2





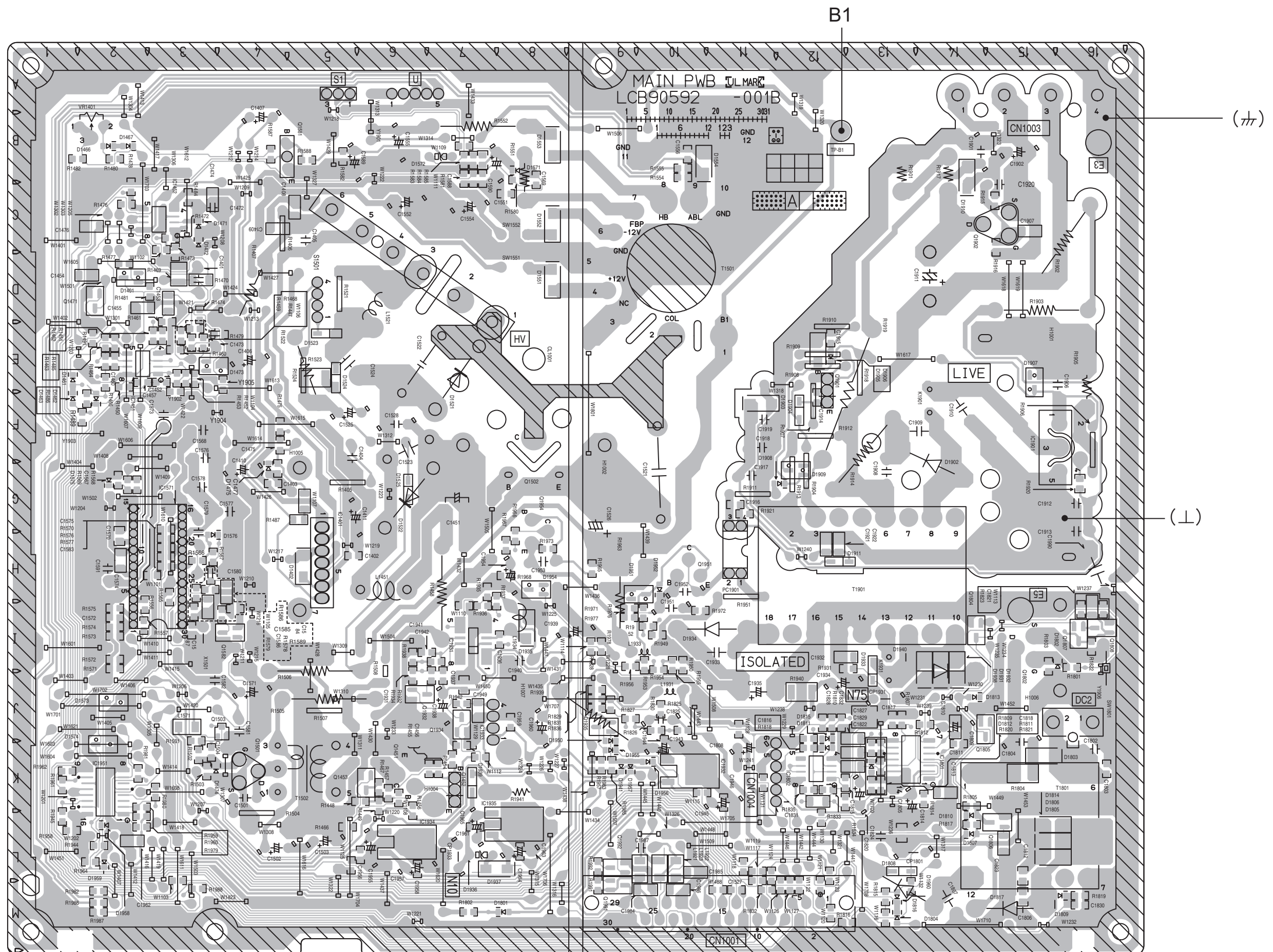


**SIGNAL PWB PATTERN [SOLDER SIDE]**

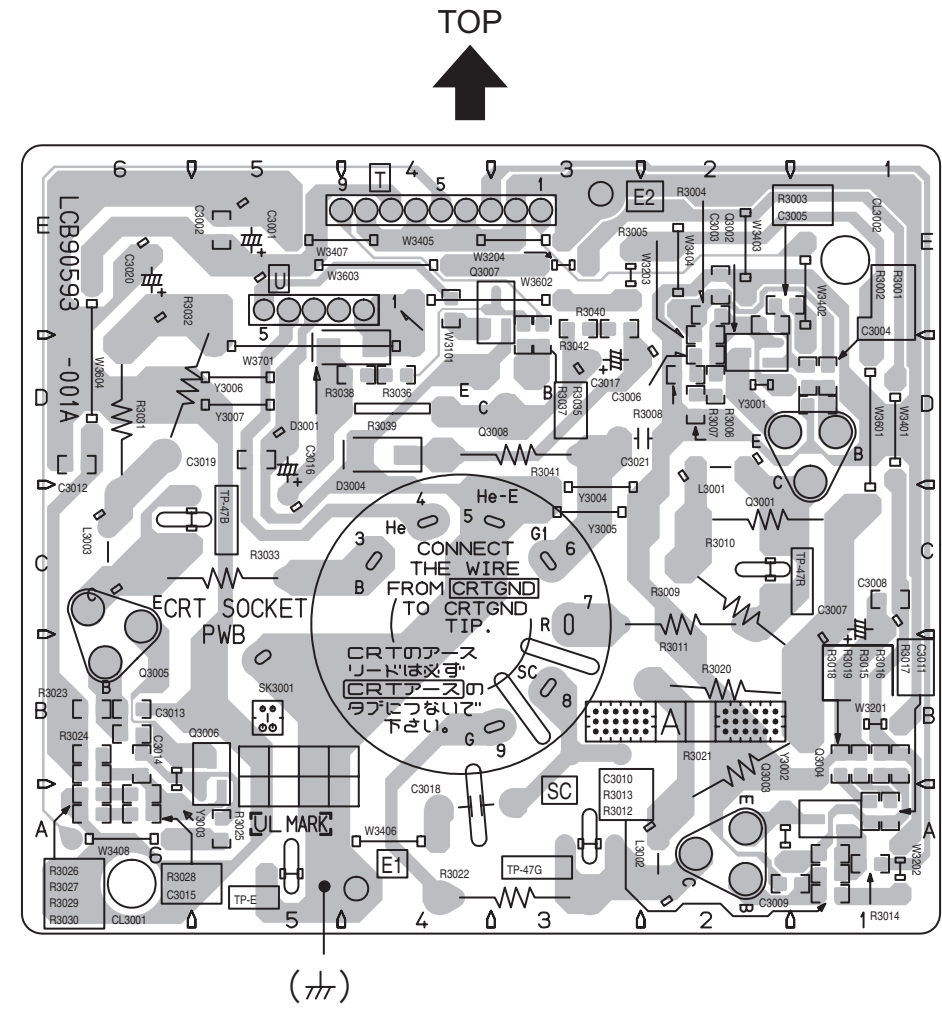




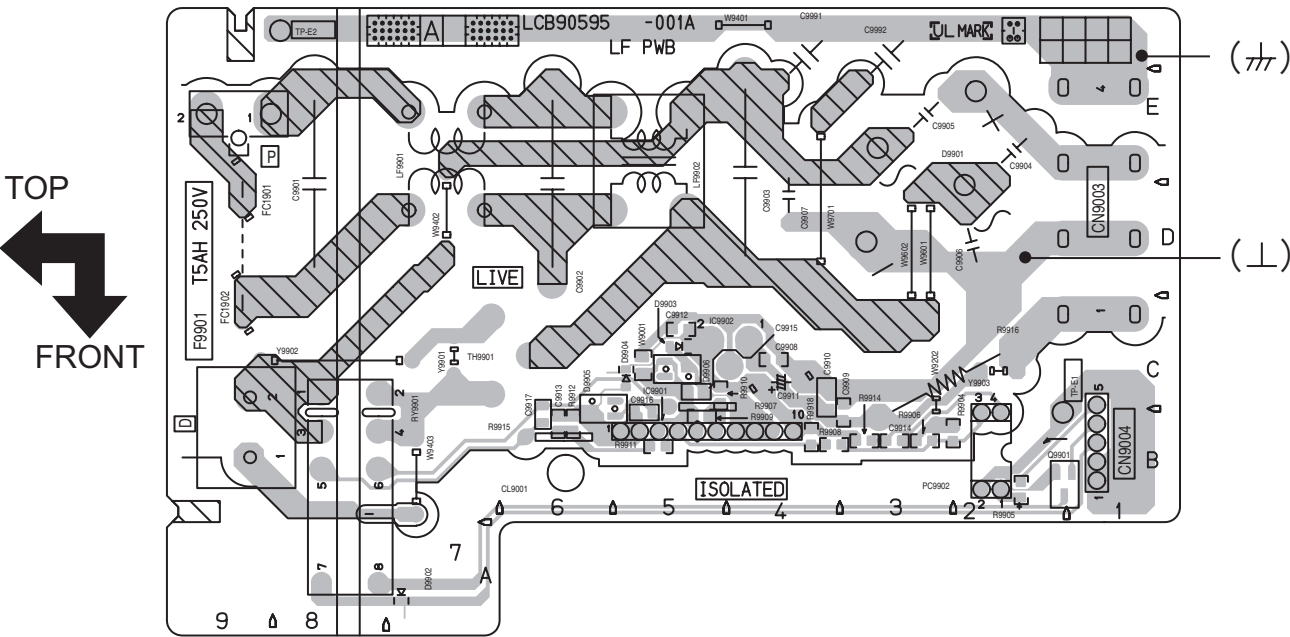




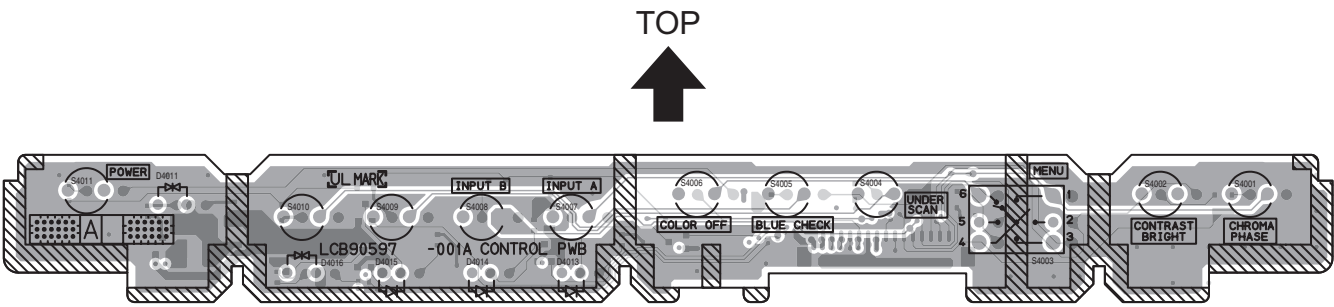
CRT SOCKET PWB PATTERN



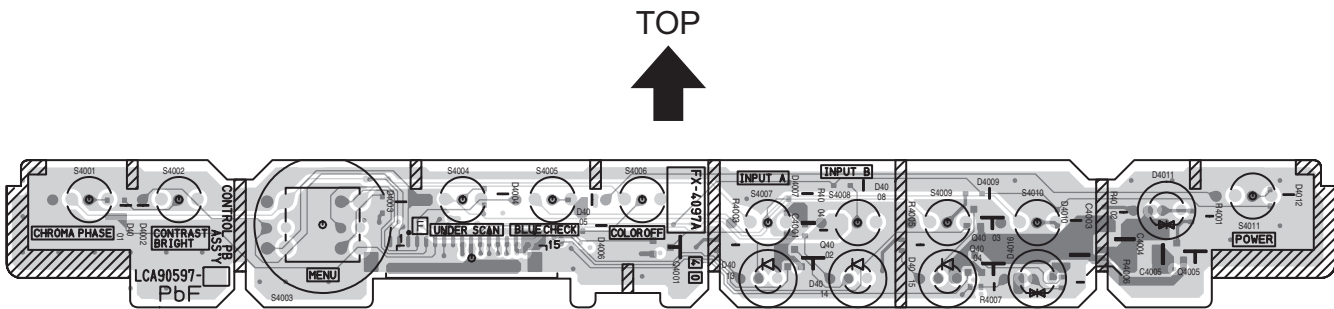
LINE FILTER PWB PATTERN



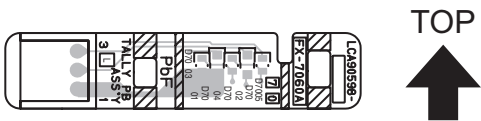
FRONT CONTROL PWB PATTERN [SOLDER SIDE]



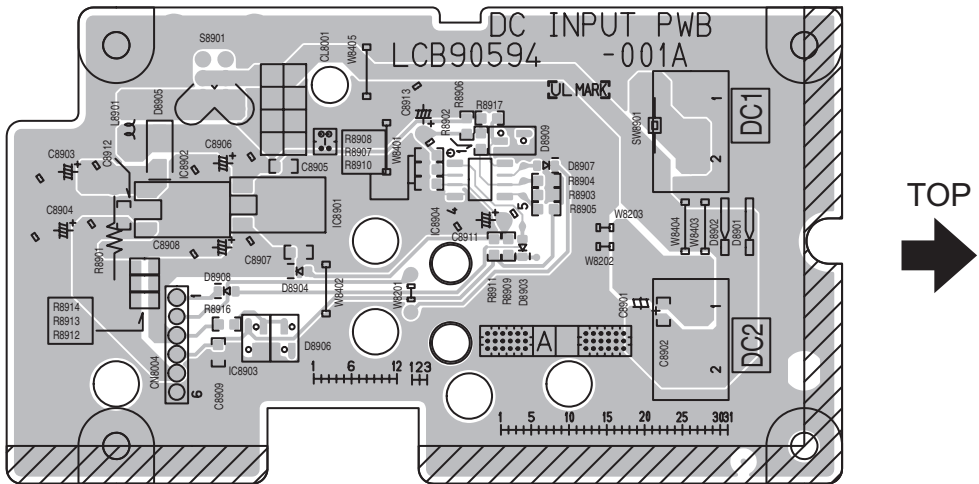
FRONT CONTROL PWB PATTERN [PARTS SIDE]



TALLY PWB PATTERN



DC INPUT PWB PATTERN



# VOLTAGE CHARTS

<SIGNAL PWB>  
[P.2-7 - P.2-8]

MODE PIN NO.	DC (V)
IC6001	-
IC6101	-
1	4.9
2	1.2
3	3.1
4	2.3
5	1.8
6	0
7	0
8	4.9
9	3.7
10	3.7
11	0
12	0
13	2.5
14	2.2
15	4.9
16	0
17	2.5
18	3.1
19	1.8
20	2.2
IC6102	-
IC6601	-
1	3.2
2	1.1
3	3.9
4	1.8
5	2.1
6	2.2
7	0.1
8	3.8
9	4.1
10	4.0
11	2.2
12	5.0
13	2.4
14	0
15	3.2
16	6.2
17	0
18	4.5
19	0
20	7.4
21	5.9
22	8.9
23	8.8
24	0
25	0.8
26	0
27	3.6
28	3.7
29	4.7
30	4.8
31	4.7
32	0
33	3.0
34	3.0
35	3.0
36	0
37	3.5
38	3.5
39	3.5
40	8.9
41	2.5
42	2.5
43	2.6
44	0
45	6.1
46	9.0
47	0
48	3.6
49	5.4
50	3.6
51	4.9
52	5.0
53	6.4
54	6.9
55	5.0
56	0
IC6661	-
IC6701	-
IC6751	-
1	11.4
2	4.5
3	0
4	0
5	7.2
6	7.2
7	0
8	7.4
9	15.8
Q6101	-
Q6102	-
Q6103	-
Q6104	-
Q6105	-

MODE PIN NO.	DC (V)
Q6106	-
Q6107	-
Q6108	-
Q6109	-
Q6110	-
Q6111	-
Q6112	-
Q6113	-
Q6301	-
Q6302	-
Q6354	-
Q6601	-
Q6605	-
Q6606	-
Q6607	-
Q6608	-
Q6609	-
Q6661	-
Q6662	-
Q6663	-
Q6664	-

[P.2-9 - P.2-10]

MODE PIN NO.	DC (V)
IC6803	-
IC6805	-
IC6806	-
IC6807	-
1	0
2	0
3	0
4	0
5	3.8
6	3.9
7	0
8	4.9
IC6901	-
1	7.8
2	7.8
3	3.1
4	3.1
5	0
6	5.6
7	5.6
8	5.6
9	5.6
10	12.2
Q6701	-
Q6702	-
Q6703	-
Q6704	-
Q6751	-
Q6801	-
Q6802	-
Q6803	-
Q6804	-
Q6805	-
Q6807	-
Q6808	-
Q6809	-

<MAIN PWB>  
[P.2-11 - P.2-12]

MODE PIN NO.	DC (V)
IC1401	-
1	-10.4
2	0.2
3	11.0
4	0
5	0
6	10.2
7	-9.2
IC1451	-
1	-1.1
2	-0.1
3	-0.1
4	-10.4
5	2.8
6	2.8
7	7.0
8	10.2
IC1452	-
1	-9.1
2	0.5
3	0
4	-10.4
5	2.4
6	2.4
7	2.4
8	10.2
IC1571	-
1	2.0
2	0
3	3.6
4	3.6
5	0
6	3.9
7	5.0
8	4.8
9	5.9
10	4.9
11	7.7
12	4.4
13	2.0
14	0
15	0
16	12.2
17	5.7
18	4.8
19	10.2
20	11.4
21	1.1
22	2.0
23	4.9
24	4.3
25	3.5
26	0.3
27	1.5
28	0
29	0.3
30	0
IC1801	-
1	0
2	1.3
3	1.1
4	0
5	0
6	0
7	0
8	0.6
9	0.3
10	0.3
11	0.1
12	0.6
13	0.1
14	0
IC1802	-
1	1.2
2	1.9
3	2.4
4	0
5	0.9
6	1.1
7	1.1
8	1.3
IC1901	-
1	1.5
2	0
3	134.0
4	20.0
5	0
IC1931	-
1	16.8
2	12.3
3	0
4	1.2
5	6.8
IC1932	-
1	12.2
2	0
3	8.9

MODE PIN NO.	DC (V)
IC1933	-
1	16.9
2	6.5
3	0
4	1.2
5	6.8
IC1934	-
1	3.2
2	0
3	4.9
IC1935	-
1	8.8
2	0
3	4.9
IC1936	-
1	8.9
2	3.3
3	0
4	1.2
5	6.7
IC1951	-
1	2.5
2	0
3	0.3
4	3.7
5	2.8
6	2.5
7	1.7
8	0
9	4.9
10	4.9
11	0
12	4.9
13	4.9
14	3.6
15	3.7
16	4.9
Q1421	-
E	65.2
C	76.1
B	65.7
Q1422	-
E	65.1
C	11.0
B	65.1
Q1423	-
E	0
C	63.3
B	-1.1
Q1451	-
E	0
C	4.0
B	0.6
Q1452	-
E	4.6
C	0.6
B	4.0
Q1453	-
E	0
C	4.7
B	0
Q1471	-
E	0
C	0
B	0
Q1501	-
S	0
D	24.1
G	5.1
Q1502	-
E	0
C	115.0
B	0
Q1503	-
S	5.7
D	0
G	5.2
Q1581	-
E	0
C	4.9
B	0
Q1582	-
E	0
C	0
B	1.1
Q1802	-
S	0
D	0
G	0
Q1805	-
E	0
C	0
B	0
Q1806	-
E	0
C	0
B	2.7

MODE PIN NO.	DC (V)
Q1807	-
E	0
C	0
B	0.8
Q1808	-
E	0
C	0.8
B	0
Q1901	-
E	10.0
C	8.7
B	9.8
Q1902	-
S	0
D	0
G	12.6
Q1932	-
E	0
C	6.4
B	0
Q1934	-
E	0
C	0
B	4.6
Q1935	-
E	0
C	0
B	1.0
Q1951	-
E	6.9
C	101.3
B	7.4
Q1954	-
E	117.5
C	0
B	117.2
Q1991	-
E	8.8
C	8.7
B	8.0
Q1992	-
E	0
C	0
B	16.8

<CRT SOCKET PWB>  
[P.2-13 - P.2-14]

MODE PIN NO.	DC (V)
Q3001	-
E	11.6
C	74.4
B	12.2
Q3002	-
E	2.7
C	11.6
B	3.2
Q3003	-
E	11.6
C	76.5
B	12.2
Q3004	-
E	2.6
C	11.6
B	3.1
Q3005	-
E	11.5
C	76.2
B	12.2
Q3006	-
E	2.6
C	11.6
B	3.2
Q3007	-
E	0
C	0
B	9.2
Q3008	-
E	0
C	97.3
B	0

<FRONT CONTROL PWB>  
[P.2-15 - P.2-16]

MODE PIN NO.	DC (V)
Q4001	-
E	4.9
C	4.8
B	0
Q4002	-
E	4.9
C	0
B	4.9
Q4003	-
E	4.9
C	0
B	4.9
Q4004	-
E	4.9
C	0
B	4.9

<LINE FILTER PWB>  
[P.2-19 - P.2-20]

MODE PIN NO.	DC (V)
IC9901	-
1	5.0
2	5.1
3	5.1
4	5.0
5	0
6	6.0
7	6.0
8	6.0
9	6.0
10	12.1
IC9902	-
1	21.2
2	12.1
3	0
Q9901	-
E	0
C	12.2
B	0

<DC INPUT PWB>  
[P.2-21 - P.2-22]

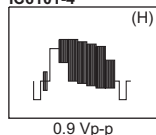
MODE PIN NO.	DC (V)
IC8901	-
1	0.6
2	0
3	0
IC8902	-
1	8.7
2	0
3	8.7
IC8903	-
1	1.7
2	1.7
3	0
IC8904	-
1	0.2
2	0
3	0
4	0
5	1.7
6	0
7	0
8	0.6

# WAVEFORMS

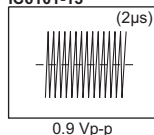
SIGNAL PWB (1/2)

(SHEET1)

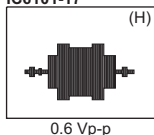
IC6101-4



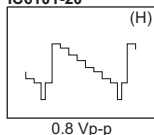
IC6101-13



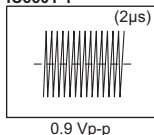
IC6101-17



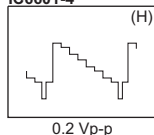
IC6101-20



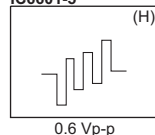
IC6601-1



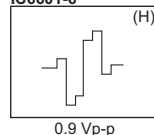
IC6601-4



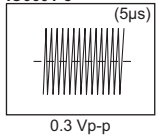
IC6601-5



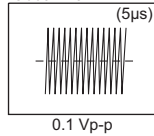
IC6601-6



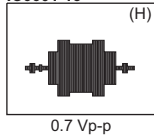
IC6601-8



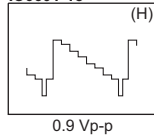
IC6601-10



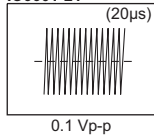
IC6601-13



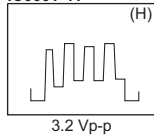
IC6601-15



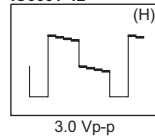
IC6601-21



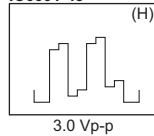
IC6601-41



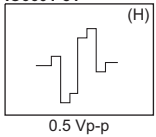
IC6601-42



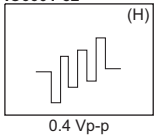
IC6601-43



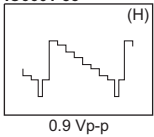
IC6601-51



IC6601-52



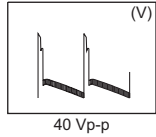
IC6601-53



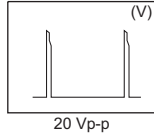
MAIN PWB

(SHEET3)

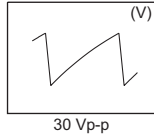
IC1401-2



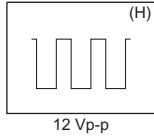
IC1401-3



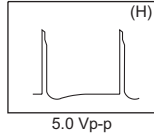
IC1571-8



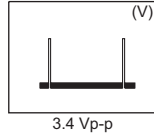
IC1571-17



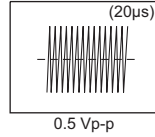
IC1571-26



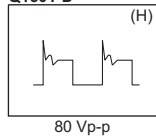
IC1571-28



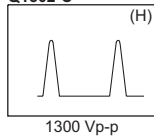
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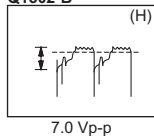
Q1501-D



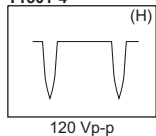
Q1502-C



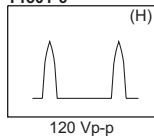
Q1502-B



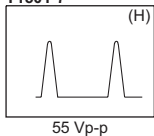
T1501-4



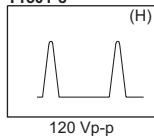
T1501-6



T1501-7



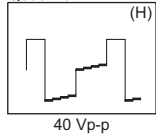
T1501-8



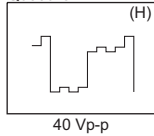
CRT SOCKET PWB

(SHEET4)

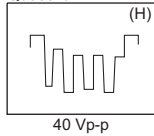
Q3001-C



Q3003-C



Q3005-C



# PARTS LIST

## CAUTION

- The parts identified by the  $\Delta$  symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines --- in the Parts No. columns will not be supplied.
- P.W. BOARD Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.

### ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
CR	Carbon Resistor	C CAP.	Ceramic Capacitor
FR	Fusible Resistor	E CAP.	Electrolytic Capacitor
PR	Plate Resistor	M CAP.	Mylar Capacitor
VR	Variable Resistor	CH CAP.	Chip Capacitor
HV R	High Voltage Resistor	HV CAP.	High Voltage Capacitor
MF R	Metal Film Resistor	MF CAP.	Metalized Film Capacitor
MG R	Metal Glazed Resistor	MM CAP.	Metalized Mylar Capacitor
MP R	Metal Plate Resistor	MP CAP.	Metalized Polystyrol Capacitor
OM R	Metal Oxide Film Resistor	PP CAP.	Polypropylene Capacitor
CMF R	Coating Metal Film Resistor	PS CAP.	Polystyrol Capacitor
UNF R	Non-Flammable Resistor	TF CAP.	Thin Film Capacitor
CH V R	Chip Variable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH MG R	Chip Metal Glazed Resistor	TAN. CAP.	Tantalum Capacitor
COMP. R	Composition Resistor	CH C CAP.	Chip Ceramic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
		CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

RESISTORS									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% -10%	+50% -10%	+80% -20%	+100% -0%



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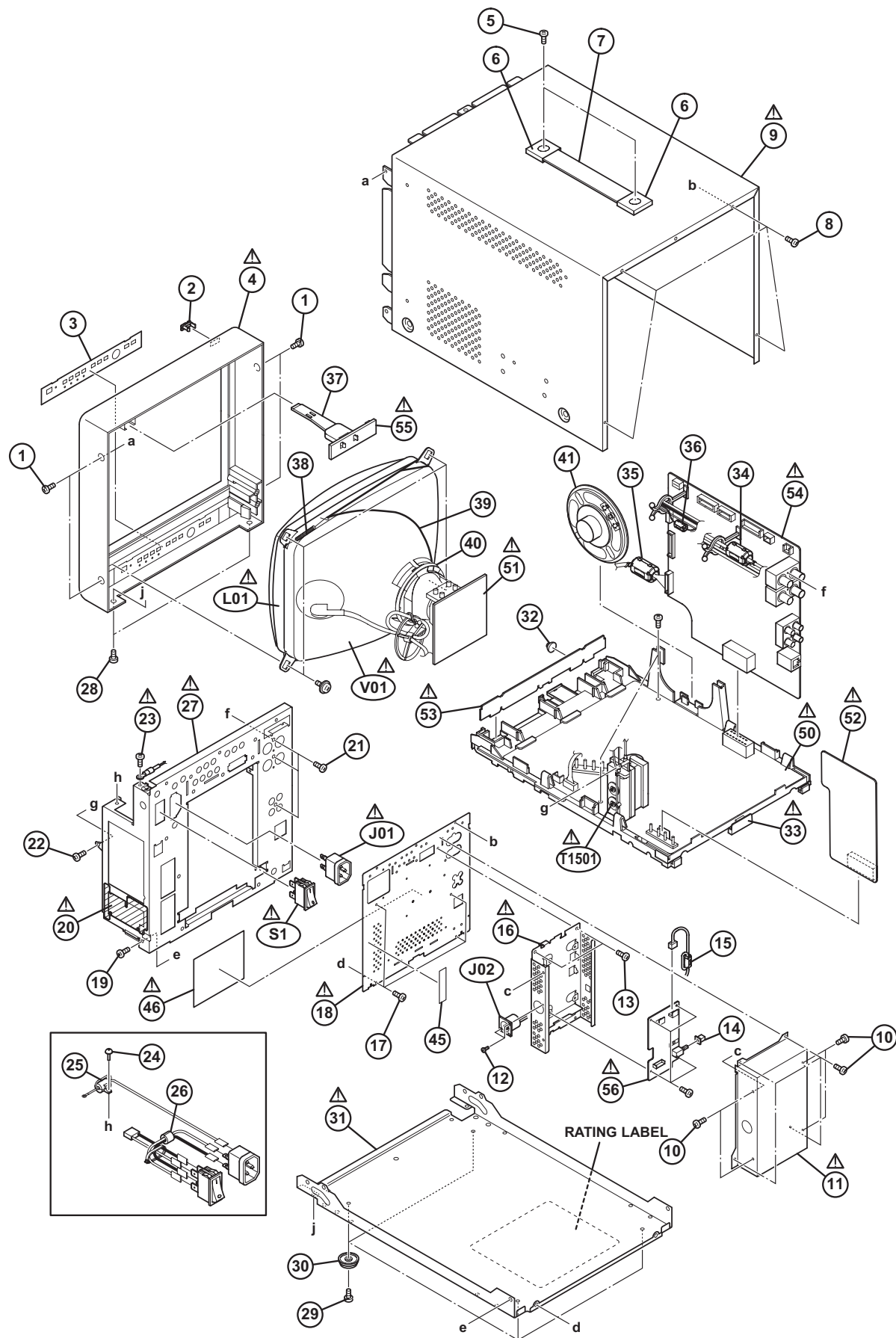
# USING P.W. BOARD

P.W.B ASS'Y name	TM-1011G/C	TM-1011G/E	TM-1011G/U
SIGNAL P.W.B	FX-6152A-H2	←	←
MAIN P.W.B	FX-1192A-H2	←	←
CRT SOCKET P.W.B	FX-3078A-H2	←	←
FRONT CONTROL P.W.B	FX-4097A-H2	←	←
TALLY P.W.B	FX-7060A-H2	←	←
LINE FILTER P.W.B	FX-9097A-H2	←	←
DC INPUT P.W.B	FX-8035A-H2	←	←

## EXPLODED VIEW PARTS LIST

△	Ref.No.	Part No.	Part Name	Description	Local
△	V01	A22AKQ13X17	PICTURE TUBE	Inc.DEF YOKE	
△	L01	QQW0192-001	DEG COIL		
△	T1501	QQH0193-001	FB TRANSF		
△	S1	QSW0699-001	POWER SWITCH		
△	J01	QNC0109-001	AC INLET		
	J02	QNZ0133-002	D CONNECTOR		
	1	QYSDSF3006MA	TAP SCREW	M3 x 6mm(x4)	
	2	CM48149-A01	JVC MARK		
	3	LC21751-003A-H	CONTROL SHEET		
△	4	LC12118-002A-OK	FRONT PANEL		
	5	QYSHSP4014NA	SCREW	M4 x 14mm(x2)	
	6	LC42326-001A	HANDLE COVER	(x2)	
	7	LC41850-001A	HANDLE		
	8	LC41453-002A	ASSY SCREW	(x4)	
△	9	LC12623-001A-H	TOP COVER ASS'Y		
	10	LC41453-002A	ASSY SCREW	(x8)	
△	11	LC22058-001A-H	REAR COVER ASS'Y		
	12	QYSPSG2606NA	TAP SCREW	M2.6 x 6mm(x2)	
	13	LC41453-002A	ASSY SCREW	(x2)	
	14	CM46044-B02	PUSH KNOB		
	15	QQR0491-001	FERRITE CORE	TDK (GRAY)	
△	16	LC12575-001A-H	PWB BASE		
	17	LC41453-002A	ASSY SCREW	(x4)	
△	18	LC12120-002B-H	REAR PANEL		
	19	LC41453-002A	ASSY SCREW		
△	20	LC33153-001A	INSULATOR SHEET		
	21	QYSBSF3010ZA	TAP SCREW	M3 x 10mm(x3)	
	22	QYSBSF4012ZA	TAP SCREW	M4 x 12mm	
△	23	CM44287-00E	ASSY SCREW		
	24	CM44287-00E	ASSY SCREW		
	25	QQR0803-001	CORE FILTER		
	26	QQR0942-001	CORE FILTER		
△	27	LC12117-002A-H	TERMINAL BRACKET		
	28	QYSBSGG3006ZA	TAP SCREW	M3 x 6mm(x2)	
	29	QYSBSGG3006ZA	TAP SCREW	M3 x 6mm(x4)	
	30	QZF2207-001	FOOT	22mm x 7mm(x4)	
△	31	LC12119-001A-H	BOTTOM COVER		
	32	LC32948-001B	PUSH KNOB		
△	33	LC12116-001B-OK	CHASSIS BASE		
	34	QQR0491-001	FERRITE CORE	TDK (GRAY)	
	35	QQR0942-001	CORE FILTER		
	36	QQR0491-001	FERRITE CORE	TDK (GRAY)	
	37	LC32949-001C	TALLY LENS		
	38	QZW0175-001	SPRING		
	39	WJY0016-005A-E	BRAIDED ASS'Y		
	40	QQW0193-002	CANCELLER COIL		
	41	QAS0349-001	SPEAKER	SP01	
	45	LC42400-001A-H	SERIAL LABEL		
△	46	LC33438-001A-H	WARNING LABEL		TM-1011GE, TM-1011GU
△	50	FX-1192A-H2	MAIN PWB		
△	51	FX-3078A-H2	CRT SOCKET PWB		
△	52	FX-9097A-H2	LINE FILTER PWB		
△	53	FX-4097A-H2	FRONT CONTROL PWB		
△	54	FX-6152A-H2	SIGNAL PWB		
△	55	FX-7060A-H2	TALLY PWB		
△	56	FX-8035A-H2	DC INPUT PWB		

# EXPLODED VIEW



# PRINTED WIRING BOARD PARTS LIST

## SIGNAL P.W. BOARD ASS'Y

(FX-6152A-H2)

△Ref No.	Part No.	Part Name	Description	Local
IC6001	CD4053BNS-X	IC		
IC6101	TC90A49AP	IC		
IC6102	CD4053BNS-X	IC		
IC6301	TA8772AN	IC(MONO-ANA)		
IC6351	CD14538BNS-X	IC		
IC6352	CD14538BNS-X	IC		
IC6601	TA1276AN	IC		
IC6661	SN74HC161APW-X	IC		
IC6701	CD4053BNS-X	IC		
IC6751	AN5265	IC		
IC6803	JLC1562BF-X	IC		
IC6805	MB90F553TM1011	IC	(SERVICE)	
IC6806	S-80840CLNB-G-W	IC		
IC6807	ATE16-TM1011G	IC	(SERVICE)	
IC6808	M35075-055FP-X	IC		
IC6901	LA6515	IC		
Q6001	2SC3928A/QR/-X	TRANSISTOR		
Q6002	2SC3928A/QR/-X	TRANSISTOR		
Q6003	2SC3928A/QR/-X	TRANSISTOR		
Q6004	DTC124EKA-X	DIGI TRANSISTOR		
Q6005	2SC3928A/QR/-X	TRANSISTOR		
Q6016	2SA1530A/QR/-X	TRANSISTOR		
Q6101	2SC3928A/QR/-X	TRANSISTOR		
Q6102	2SC3928A/QR/-X	TRANSISTOR		
Q6103	2SC3928A/QR/-X	TRANSISTOR		
Q6104	2SC3928A/QR/-X	TRANSISTOR		
Q6105	2SC3928A/QR/-X	TRANSISTOR		
Q6106	2SC3928A/QR/-X	TRANSISTOR		
Q6107	2SC3928A/QR/-X	TRANSISTOR		
Q6108	2SC3928A/QR/-X	TRANSISTOR		
Q6109	2SC3928A/QR/-X	TRANSISTOR		
Q6110	2SC3928A/QR/-X	TRANSISTOR		
Q6111	2SC3928A/QR/-X	TRANSISTOR		
Q6112	2SC3928A/QR/-X	TRANSISTOR		
Q6113	DTC124EKA-X	DIGI TRANSISTOR		
Q6301	2SC3928A/QR/-X	TRANSISTOR		
Q6302	2SC3928A/QR/-X	TRANSISTOR		
Q6303	2SC3928A/QR/-X	TRANSISTOR		
Q6304	2SC3928A/QR/-X	TRANSISTOR		
Q6351	DTC124EKA-X	DIGI TRANSISTOR		
Q6352	2SC3928A/QR/-X	TRANSISTOR		
Q6353	2SA1530A/QR/-X	TRANSISTOR		
Q6354	2SC3928A/QR/-X	TRANSISTOR		
Q6601	DTC124EKA-X	DIGI TRANSISTOR		
Q6605	2SA1530A/QR/-X	TRANSISTOR		
Q6606	DTC124EKA-X	DIGI TRANSISTOR		
Q6607	2SA1530A/QR/-X	TRANSISTOR		
Q6608	2SA1530A/QR/-X	TRANSISTOR		
Q6609	2SA1530A/QR/-X	TRANSISTOR		
Q6661	2SC3928A/QR/-X	TRANSISTOR		
Q6662	2SC3928A/QR/-X	TRANSISTOR		
Q6663	2SA1530A/QR/-X	TRANSISTOR		
Q6664	2SC3928A/QR/-X	TRANSISTOR		
Q6701	2SC3928A/QR/-X	TRANSISTOR		
Q6702	2SC3928A/QR/-X	TRANSISTOR		
Q6703	2SC3928A/QR/-X	TRANSISTOR		
Q6704	DTC124EKA-X	DIGI TRANSISTOR		
Q6751	DTC124EKA-X	DIGI TRANSISTOR		
Q6801	DTC124EKA-X	DIGI TRANSISTOR		
Q6802	DTC124EKA-X	DIGI TRANSISTOR		
Q6803	2SC3928A/QR/-X	TRANSISTOR		
Q6804	2SC3928A/QR/-X	TRANSISTOR		
Q6805	DTC124EKA-X	DIGI TRANSISTOR		
Q6807	DTC124EKA-X	DIGI TRANSISTOR		
Q6941	2SC3928A/QR/-X	TRANSISTOR		
D6001	MA111-X	SI DIODE		
D6002	MA111-X	SI DIODE		
D6003	MA111-X	SI DIODE		
D6004	MA111-X	SI DIODE		
D6351	MA111-X	SI DIODE		
D6352	MA111-X	SI DIODE		
D6602	MA111-X	SI DIODE		
D6613	MA111-X	SI DIODE		
D6614	MA111-X	SI DIODE		
D6615	MA111-X	SI DIODE		
D6616	MA111-X	SI DIODE		
D6617	MA111-X	SI DIODE		
D6618	MA111-X	SI DIODE		
D6619	MA111-X	SI DIODE		
D6620	MA111-X	SI DIODE		
D6621	MA111-X	SI DIODE		
D6622	MA111-X	SI DIODE		
D6623	MA111-X	SI DIODE		
D6624	MA111-X	SI DIODE		
D6625	MA111-X	SI DIODE		
D6626	MA111-X	SI DIODE		
D6627	MA111-X	SI DIODE		
D6661	MA8051/M/-X	Z DIODE		
D6662	MA111-X	SI DIODE		
D6701	MA8150/M/-X	Z DIODE		
D6702	MA8150/M/-X	Z DIODE		
D6703	MA8150/M/-X	Z DIODE		
D6704	MA8150/M/-X	Z DIODE		
D6752	MA111-X	SI DIODE		
D6801	MA8051/M/-X	Z DIODE		
D6820	MA111-X	SI DIODE		
D6821	MA111-X	SI DIODE		
D6822	MA111-X	SI DIODE		
D6823	MA111-X	SI DIODE		
D6824	MA111-X	SI DIODE		
D6825	MA111-X	SI DIODE		
D6826	MA111-X	SI DIODE		
D6827	MA111-X	SI DIODE		
D6828	MA111-X	SI DIODE		
D6829	MA111-X	SI DIODE		
D6830	MA111-X	SI DIODE		
D6831	MA111-X	SI DIODE		
D6832	MA111-X	SI DIODE		
D6833	MA111-X	SI DIODE		
D6834	MA8051/M/-X	Z DIODE		
D6835	MA8051/M/-X	Z DIODE		
D6836	MA8051/M/-X	Z DIODE		
D6837	MA8051/M/-X	Z DIODE		
D6838	MA8051/M/-X	Z DIODE		
D6839	MA8051/M/-X	Z DIODE		
D6840	MA8051/M/-X	Z DIODE		
D6841	MA8051/M/-X	Z DIODE		
D6842	MA8051/M/-X	Z DIODE		
D6843	MA8051/M/-X	Z DIODE		
D6844	MA8051/M/-X	Z DIODE		
D6845	MA8051/M/-X	Z DIODE		
D6846	MA8051/M/-X	Z DIODE		
D6847	MA8051/M/-X	Z DIODE		
D6848	MA8051/M/-X	Z DIODE		
D6849	MA111-X	SI DIODE		
D6850	MA8051/M/-X	Z DIODE		
D6851	MA8051/M/-X	Z DIODE		
D6852	MA111-X	SI DIODE		
D6853	MA111-X	SI DIODE		
C6001	NCB11AK-106X	C CAPACITOR	10uF 10V K	
C6002	NDC31HJ-181X	C CAPACITOR	180pF 50V J	
C6003	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6004	NCB11AK-106X	C CAPACITOR	10uF 10V K	
C6005	NDC31HJ-181X	C CAPACITOR	180pF 50V J	
C6006	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6007	NEHL1AM-107X	E CAPACITOR	100uF 10V M	
C6008	NEHM1CM-476X	E CAPACITOR	47uF 16V M	
C6009	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6010	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6102	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6103	NEHM1CM-476X	E CAPACITOR	47uF 16V M	
C6105	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6106	NEHL0JM-107X	E CAPACITOR	100uF 6.3V M	
C6107	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6108	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6109	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C6110	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C6111	NCB11AK-106X	C CAPACITOR	10uF 10V K	
C6112	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C6113	NEHM1CM-476X	E CAPACITOR	47uF 16V M	
C6114	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6115	NEHM1CM-476X	E CAPACITOR	47uF 16V M	
C6116	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6117	NEHL0JM-107X	E CAPACITOR	100uF 6.3V M	
C6118	NDC31HJ-181X	C CAPACITOR	180pF 50V J	
C6119	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C6120	NEHL0JM-107X	E CAPACITOR	100uF 6.3V M	
C6121	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6122	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6123	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C6124	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C6129	NDC31HJ-330X	C CAPACITOR	33pF 50V J	
C6136	NDC31HJ-270X	C CAPACITOR	27pF 50V J	

△Ref No.	Part No.	Part Name	Description Local	△Ref No.	Part No.	Part Name	Description Local
C6137	NDC31HJ-181X	C CAPACITOR	180pF 50V J	C6661	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C6138	NDC31HJ-181X	C CAPACITOR	180pF 50V J	C6662	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C6139	NCJ41EK-106X-U	C CAPACITOR	10mF 25V K	C6663	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C6140	NCJ41EK-106X-U	C CAPACITOR	10mF 25V K	C6664	NEHL1CM-476X	E CAPACITOR	47uF 16V M
C6142	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6665	NCB31HK-472X	C CAPACITOR	4700pF 50V K
C6146	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6701	NDC31HJ-561X	C CAPACITOR	560pF 50V J
C6147	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6702	NCB31CK-105X	C CAPACITOR	1uF 16V K
C6148	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6704	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6149	NCJ41EK-106X-U	C CAPACITOR	10mF 25V K	C6705	NDC31HJ-561X	C CAPACITOR	560pF 50V J
C6150	NEHMOJM-107X	E CAPACITOR	100uF 6.3V M	C6706	NCB31CK-105X	C CAPACITOR	1uF 16V K
C6201	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6708	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6202	NEHM1CM-476X	E CAPACITOR	47uF 16V M	C6709	NCJ41EK-106X-U	C CAPACITOR	10mF 25V K
C6305	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6751	NEHL1CM-476X	E CAPACITOR	47uF 16V M
C6306	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6752	NCB31CK-105X	C CAPACITOR	1uF 16V K
C6307	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6753	NCB31HK-153X	C CAPACITOR	0.015uF 50V K
C6308	NEHL1AM-107X	E CAPACITOR	100uF 10V M	C6754	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C6310	NCJ41EK-106X-U	C CAPACITOR	10mF 25V K	C6755	NCB11CK-475X	C CAPACITOR	4.7uF 16V K
C6311	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6756	NCJ41EK-106X-U	C CAPACITOR	10mF 25V K
C6312	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6758	QEHR1CM-227Z	E CAPACITOR	220uF 16V M
C6313	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6759	NCB31HK-473X	C CAPACITOR	0.047uF 50V K
C6314	NCJ41EK-106X-U	C CAPACITOR	10mF 25V K	C6760	QEHR1EM-108Z	E CAPACITOR	1000uF 25V M
C6315	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6761	NCB11CK-225X	C CAPACITOR	2.2uF 16V K
C6316	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6762	NCJ41EK-106X-U	C CAPACITOR	10mF 25V K
C6317	NDC31HJ-101X	C CAPACITOR	100pF 50V J	C6765	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C6318	NCB31AK-474X	C CAPACITOR	0.47uF 10V K	C6801	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C6319	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6802	QCZ0396-226Z	C CAPACITOR	22uF 16V M
C6320	NEHL0JM-107X	E CAPACITOR	100uF 6.3V M	C6803	NCB10JK-106X	C CAPACITOR	10uF 6.3V K
C6321	NDC31HJ-101X	C CAPACITOR	100pF 50V J	C6804	NCB10JK-106X	C CAPACITOR	10uF 6.3V K
C6322	NCB31AK-474X	C CAPACITOR	0.47uF 10V K	C6808	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z
C6323	NCB31CK-105X	C CAPACITOR	1uF 16V K	C6809	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C6324	NCB31CK-105X	C CAPACITOR	1uF 16V K	C6811	NDC31HJ-271X	C CAPACITOR	270pF 50V J
C6325	NCB31CK-105X	C CAPACITOR	1uF 16V K	C6812	NDC31HJ-271X	C CAPACITOR	270pF 50V J
C6326	NCB31AK-474X	C CAPACITOR	0.47uF 10V K	C6813	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z
C6327	NCB31AK-474X	C CAPACITOR	0.47uF 10V K	C6814	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z
C6328	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6815	NCB31HK-472X	C CAPACITOR	4700pF 50V K
C6329	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6816	NCB31CK-105X	C CAPACITOR	1uF 16V K
C6330	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6817	NEHL1CM-476X	E CAPACITOR	47uF 16V M
C6331	NDC31HJ-470X	C CAPACITOR	47pF 50V J	C6818	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C6332	NDC31HJ-470X	C CAPACITOR	47pF 50V J	C6819	NEHL0JM-107X	E CAPACITOR	100uF 6.3V M
C6333	NEHL0JM-107X	E CAPACITOR	100uF 6.3V M	C6820	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6334	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6821	NEHL0JM-107X	E CAPACITOR	100uF 6.3V M
C6351	NDC31HJ-391X	C CAPACITOR	390pF 50V J	C6822	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6352	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6824	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6353	NDC31HJ-391X	C CAPACITOR	390pF 50V J	C6837	NDC31HJ-101X	C CAPACITOR	100pF 50V J
C6354	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	C6838	NDC31HJ-101X	C CAPACITOR	100pF 50V J
C6355	NDC31HJ-2R0X	C CAPACITOR	2pF 50V J	C6851	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6357	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6852	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6601	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6853	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6602	NDC31HJ-110X	C CAPACITOR	11pF 50V J	C6854	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6603	NDC31HJ-100X	C CAPACITOR	10pF 50V J	C6855	QEHR1CM-477Z	E CAPACITOR	470uF 16V M
C6604	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	C6856	NDC31HJ-391X	C CAPACITOR	390pF 50V J
C6605	NCB31HK-222X	C CAPACITOR	2200pF 50V K	C6857	NDC31HJ-391X	C CAPACITOR	390pF 50V J
C6606	NEHL0JM-107X	E CAPACITOR	100uF 6.3V M	C6858	NDC31HJ-391X	C CAPACITOR	390pF 50V J
C6607	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6859	NDC31HJ-391X	C CAPACITOR	390pF 50V J
C6608	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6860	NDC31HJ-391X	C CAPACITOR	390pF 50V J
C6609	NCB21CK-474X	C CAPACITOR	0.47uF 16V K	C6861	NDC31HJ-391X	C CAPACITOR	390pF 50V J
C6610	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	C6862	NDC31HJ-391X	C CAPACITOR	390pF 50V J
C6611	NCB31HK-223X	C CAPACITOR	0.022uF 50V K	C6863	NCB31HK-152X	C CAPACITOR	1500pF 50V K
C6612	NCJ41EK-106X-U	C CAPACITOR	10mF 25V K	C6865	NCB31HK-272X	C CAPACITOR	2700pF 50V K
C6613	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6866	NDC31HJ-391X	C CAPACITOR	390pF 50V J
C6614	NEHL1AM-107X	E CAPACITOR	100uF 10V M	C6867	NDC31HJ-331X	C CAPACITOR	330pF 50V J
C6615	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6868	NDC31HJ-270X	C CAPACITOR	27pF 50V J
C6616	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6901	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C6617	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6906	NEHM1CM-476X	E CAPACITOR	47uF 16V M
C6621	NCB31CK-104X	C CAPACITOR	0.1uF 16V K				
C6622	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6002	NRSA02F-750X	MG RESISTOR	75Ω 1/10W F
C6623	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6003	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
C6624	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6004	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
C6625	NEHL1AM-107X	E CAPACITOR	100uF 10V M	R6005	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J
C6626	NCJ41EK-106X-U	C CAPACITOR	10mF 25V K	R6006	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
C6627	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6008	NRSA02F-750X	MG RESISTOR	75Ω 1/10W F
C6628	NEHL1AM-107X	E CAPACITOR	100uF 10V M	R6009	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
C6629	NCF31CZ-474X	C CAPACITOR	0.47uF 16V Z	R6010	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
C6630	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	R6011	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J
C6631	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	R6012	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
C6632	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6013	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J
C6633	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6014	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J
C6634	NCB31AK-474X	C CAPACITOR	0.47uF 10V K	R6015	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J
C6635	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	R6016	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J
C6636	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6018	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
C6640	NEHL1CM-476X	E CAPACITOR	47uF 16V M	R6019	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
C6641	NEHM1CM-476X	E CAPACITOR	47uF 16V M	R6020	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
C6642	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6021	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C6643	QEHR1AM-108Z	E CAPACITOR	1000uF 10V M	R6022	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C6645	NDC31HJ-271X	C CAPACITOR	270pF 50V J	R6043	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
C6646	NDC31HJ-470X	C CAPACITOR	47pF 50V J	R6044	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
C6647	NDC31HJ-151X	C CAPACITOR	150pF 50V J	R6101	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J

△Ref No.	Part No.	Part Name	Description Local	△Ref No.	Part No.	Part Name	Description Local
R6102	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R6617	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J
R6103	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R6618	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J
R6104	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6619	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J
R6105	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6620	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J
R6106	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6621	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J
R6107	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6626	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6108	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	R6627	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6109	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	R6628	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6110	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6629	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J
R6111	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6630	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R6112	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6631	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
R6113	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	R6632	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6114	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	R6635	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R6115	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6636	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6116	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6645	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6117	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6646	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6118	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	R6647	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6119	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	R6648	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R6122	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6649	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6123	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6650	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6124	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6651	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6126	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6652	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6127	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6653	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6128	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	R6654	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6129	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	R6660	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6130	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6665	NRS125J-221X	MG RESISTOR	220Ω 1/2W J
R6131	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6666	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R6132	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6667	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6133	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6668	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
R6134	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	R6669	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6137	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6670	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6138	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6671	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R6139	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6672	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6141	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6673	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6142	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6702	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R6143	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	R6703	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R6145	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6704	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6146	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6706	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J
R6148	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6707	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R6150	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6708	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R6151	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6709	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6154	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6711	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6164	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R6712	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J
R6165	NRSA63J-563X	MG RESISTOR	56kΩ 1/16W J	R6713	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6301	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6715	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J
R6302	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R6750	QRE141J-152Y	C RESISTOR	1.5kΩ 1/4W J
R6303	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6751	NRS125J-220X	MG RESISTOR	22Ω 1/2W J
R6304	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6752	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J
R6305	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R6755	NRSA63J-820X	MG RESISTOR	82Ω 1/16W J
R6306	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6756	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6307	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6757	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6308	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6758	NRS125J-4R7X	MG RESISTOR	4.7Ω 1/2W J
R6309	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R6759	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6310	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6760	QRL039J-330	OMF RESISTOR	33Ω 3W J
R6314	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	R6763	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6315	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6764	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6316	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6765	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J
R6317	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	R6768	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R6318	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	R6801	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6351	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	R6802	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J
R6352	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	R6803	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J
R6353	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	R6816	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6354	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	R6817	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6356	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	R6818	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6357	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6819	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6358	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6820	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6359	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6821	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6361	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6822	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6364	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	R6823	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6365	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	R6824	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6366	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	R6825	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6367	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	R6826	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6368	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	R6827	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6372	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	R6828	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6601	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6830	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6602	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R6831	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6603	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	R6832	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6604	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J	R6833	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6605	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	R6834	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6609	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6835	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6610	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6836	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6611	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6837	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6612	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6838	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6613	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6839	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6614	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6840	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6615	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	R6841	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6616	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	R6842	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J

△Ref No.	Part No.	Part Name	Description Local
R6843	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6845	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6847	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6848	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6849	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6850	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6851	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6852	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6853	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6854	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6855	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6856	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6858	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
R6859	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6860	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6861	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6862	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6864	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J
R6865	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J
R6866	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J
R6869	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6870	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6871	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6872	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6873	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6874	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6877	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6878	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6881	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6882	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6888	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6889	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6891	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6892	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6897	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6898	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6899	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6901	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R6902	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R6903	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R6904	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J
R6907	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J
R6908	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J
R6910	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6911	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6912	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R6941	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6942	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
RA6801	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA6802	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA6803	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA6804	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA6805	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA6806	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA6807	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA6808	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA6809	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA6810	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
L6101	NQL932K-100X	COIL	10uH K
L6102	NQL932K-100X	COIL	10uH K
L6103	NQL932K-100X	COIL	10uH K
L6104	NQL932K-100X	COIL	10uH K
J6001	QNZ0799-001	BNC CONNECTOR	VIDEO A IN/OUT
J6002	QNZ0799-001	BNC CONNECTOR	VIDEO B IN/OUT
J6006	QNZ0543-001	RJ-45 JACK	MAKE/TRIGGER
J6701	QNN0703-001	PIN JACK	AUDIO A,B IN/OUT
K6101	NQR0357-002X	FERRITE BEADS	
K6103	NQR0357-002X	FERRITE BEADS	
K6104	NQR0357-002X	FERRITE BEADS	
K6301	NQR0537-001X	FERRITE BEADS	
K6601	NQR0357-002X	FERRITE BEADS	
K6602	NQR0357-002X	FERRITE BEADS	
K6603	NQR0357-002X	FERRITE BEADS	
K6604	NQR0357-002X	FERRITE BEADS	
LF6101	QQR1585-001	LPF	
LF6102	QQR1585-001	LPF	
LF6103	QQR1585-001	LPF	
X6601	QAX0849-001Z	CRYSTAL	4.433619MHz
X6602	QAX0848-001Z	CRYSTAL	3.579545MHz
X6603	QAX0873-001	C RESONATOR	503.500KHz
X6801	QAX0881-001	C RESONATOR	4.000MHz

## MAIN P.W. BOARD ASS'Y (FX-1192A-H2)

△Ref No.	Part No.	Part Name	Description Local
IC1401	LA7841	IC	
IC1451	BA4558F-X	IC	
IC1452	BA4558F-X	IC	
IC1571	UPC1884CT-A	IC	
IC1801	M62504FP-X	IC	
IC1802	BA4558F-X	IC	
IC1901	STR-F6653	IC	
IC1931	MP1580HS-X	IC	
IC1932	BA50BC0FP-X	IC	
IC1933	PQ120RDA1SZ	IC	
IC1934	BA90BC0FP-X	IC	
IC1935	BA50BC0FP-X	IC	
IC1951	CXA1875AM-X	IC	
Q1451	2SD1267A/QP/	POW TRANSISTOR	
Q1452	2SA1309A/QR/-T	TRANSISTOR	
Q1471	UN2219-X	DIGI TRANSISTOR	
Q1501	BSN304-T	TRANSISTOR	
Q1502	2SC5902-RL	POW TRANSISTOR	
Q1503	2SK1374-X	MOS FET	
△Q1581	2SC2785/JH/-T	TRANSISTOR	
Q1582	UN2219-X	DIGI TRANSISTOR	
Q1802	STP80NF10FP	POWER MOS FET	
Q1804	UN2213-X	DIGI TRANSISTOR	
Q1805	UN2213-X	DIGI TRANSISTOR	
Q1806	UN2219-X	DIGI TRANSISTOR	
Q1807	2SA1530A/QR/-X	TRANSISTOR	
Q1808	2SC3928A/QR/-X	TRANSISTOR	
Q1901	2SA1309A/QR/-T	TRANSISTOR	
Q1902	IRF840-STM	POWER MOS FET	
Q1932	UN2213-X	DIGI TRANSISTOR	
Q1934	UN2213-X	DIGI TRANSISTOR	
Q1935	UN2219-X	DIGI TRANSISTOR	
Q1951	2SC2229/Y/-T	TRANSISTOR	
Q1954	2SA949/Y/Z1-T	TRANSISTOR	
Q1991	2SA1530A/QR/-X	TRANSISTOR	
Q1992	RT1N241C-X	DIGI TRANSISTOR	
D1401	MA3051/M/-X	Z DIODE	
D1402	D1FL20U-X	SI DIODE	
D1461	MA111-X	SI DIODE	
D1463	MA111-X	SI DIODE	
D1466	MA111-X	SI DIODE	
D1467	MA111-X	SI DIODE	
D1471	RB751V-40-X	SB DIODE	
D1473	MA3068/M/-X	Z DIODE	
D1474	MA111-X	SI DIODE	
D1521	RH3G-F1	SI DIODE	
D1522	RU30-F1	SI DIODE	
D1524	CRF03-W	SI DIODE	
D1525	CRF03-W	SI DIODE	
D1551	D1FL20U-X	SI DIODE	
D1552	D1FL20U-X	SI DIODE	
D1553	D1FL20U-X	SI DIODE	
D1554	D1FL20U-X	SI DIODE	
D1571	MA111-X	SI DIODE	
△D1572	MA4068N/Z1/-T2	Z DIODE	
D1573	MA3068/M/-X	Z DIODE	
D1574	MA3068/M/-X	Z DIODE	
D1801	MA111-X	SI DIODE	
D1802	MA111-X	SI DIODE	
D1803	D1FL20U-X	SI DIODE	
D1804	RU3AM-LFC4	SI DIODE	
D1805	D1FL20U-X	SI DIODE	
D1806	D1FL20U-X	SI DIODE	
D1807	MA111-X	SI DIODE	
D1808	CRF03-W	SI DIODE	
D1809	MA111-X	SI DIODE	
D1810	MA111-X	SI DIODE	
D1811	MA111-X	SI DIODE	
D1812	MA111-X	SI DIODE	
D1813	MA111-X	SI DIODE	
D1814	D1FL20U-X	SI DIODE	
D1815	MA111-X	SI DIODE	
D1816	MA111-X	SI DIODE	
D1817	RU3YX-LFC4	SI DIODE	
D1902	RU1C-LFC4	SI DIODE	
D1903	D1FL20U-X	SI DIODE	
D1904	CRF03-W	SI DIODE	
D1905	PTZ11B-X	Z DIODE	
D1906	MA111-X	SI DIODE	
D1907	MA3150/M/-X	Z DIODE	
D1908	MA111-X	SI DIODE	

△Ref No.	Part No.	Part Name	Description	Local	△Ref No.	Part No.	Part Name	Description	Local
D1909	MA3068/M/-X	Z DIODE			C1805	NCB11EK-105X	C CAPACITOR	1uF 25V K	
D1910	D1FL20U-X	SI DIODE			C1806	NCB31HK-472X	C CAPACITOR	4700pF 50V K	
D1911	CRF03-W	SI DIODE			C1807	QCZ0325-391	C CAPACITOR	390pF 2kV K	
D1931	D1FL20U-X	SI DIODE			C1808	QEHR1AM-337Z	E CAPACITOR	330uF 10V M	
D1932	D1FL20U-X	SI DIODE			C1809	QEHR1HM-106Z	E CAPACITOR	10uF 50V M	
D1933	CRF03-W	SI DIODE			C1810	NCB11CK-105X	C CAPACITOR	1uF 16V K	
D1934	RU3AM-LFC4	SI DIODE			C1811	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
D1935	EC30HA03L-X	SB DIODE			C1812	NCB31HK-472X	C CAPACITOR	4700pF 50V K	
D1938	D1FL20U-X	SI DIODE			C1813	NCB11CK-105X	C CAPACITOR	1uF 16V K	
D1939	CRF03-W	SI DIODE			C1814	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	
D1940	RU3YX-LFC4	SI DIODE			C1816	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
D1941	MA111-X	SI DIODE			C1817	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
D1950	MA111-X	SI DIODE			C1820	QEHR1HM-336Z	E CAPACITOR	33uF 50V M	
D1951	MA3068/M/-X	Z DIODE			C1821	NCB11EK-105X	C CAPACITOR	1uF 25V K	
D1952	MA111-X	SI DIODE			C1822	NCB11EK-105X	C CAPACITOR	1uF 25V K	
D1954	MA3075/M/-X	Z DIODE			C1824	QCZ0396-226Z	C CAPACITOR	22uF 16V M	
D1955	MA111-X	SI DIODE			C1825	QCB32HK-102Z	C CAPACITOR	1000pF 500V K	
D1956	MA111-X	SI DIODE			C1827	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	
D1957	MA111-X	SI DIODE			C1828	NDC31HJ-102X	C CAPACITOR	1000pF 50V J	
D1958	MA8068/M/-X	Z DIODE			C1829	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	
D1959	MA8068/M/-X	Z DIODE			C1830	NCB31EK-473X	C CAPACITOR	0.047uF 25V K	
D1960	MA111-X	SI DIODE			C1831	NCB11EK-225X	C CAPACITOR	2.2uF 25V K	
					C1832	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
△PC1901	PS2581AL1/QW/	PHOTO COUPLER			C1902	QEHR1EM-107Z	E CAPACITOR	100uF 25V M	
					C1906	QFLC1HJ-471Z	M CAPACITOR	470pF 50V J	
C1401	QCZ0396-226Z	C CAPACITOR	22uF 16V M		C1907	NCB11CK-105X	C CAPACITOR	1uF 16V K	
C1402	NCB31HK-104X	C CAPACITOR	0.1uF 50V K		C1908	QCB32HK-222Z	C CAPACITOR	2200pF 500V K	
C1403	NCB31HK-104X	C CAPACITOR	0.1uF 50V K		C1909	QCZ0325-271	C CAPACITOR	270pF 2kV K	
C1404	QFVF1HJ-474Z	MF CAPACITOR	0.47uF 50V J		C1910	QCZ0325-271	C CAPACITOR	270pF 2kV K	
C1405	QFLC2AK-103Z	M CAPACITOR	0.01uF 100V K		C1911	QEZO673-337	E CAPACITOR	330uF 450V M	
C1406	QEHR1CM-108Z	E CAPACITOR	1000uF 16V M		C1912	QCZ0397-106Z	C CAPACITOR	10uF 25V M	
C1407	QEHR1VM-477Z	E CAPACITOR	470uF 35V M		C1913	QCZ0397-106Z	C CAPACITOR	10uF 25V M	
C1410	QEHR1CM-107Z	E CAPACITOR	100uF 16V M		C1914	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C1411	QEHR1CM-107Z	E CAPACITOR	100uF 16V M		C1915	NCB31HK-681X	C CAPACITOR	680pF 50V K	
C1451	QEZO195-475Z	BP E CAPACITOR	4.7uF 50V M		C1916	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C1452	NDC31HJ-101X	C CAPACITOR	100pF 50V J		C1917	QCZ0397-106Z	C CAPACITOR	10uF 25V M	
C1453	NCB11CK-225X	C CAPACITOR	2.2uF 16V K		C1918	QCZ0397-106Z	C CAPACITOR	10uF 25V M	
C1457	NCB31CK-154X	C CAPACITOR	0.15uF 16V K		C1919	QCZ0397-106Z	C CAPACITOR	10uF 25V M	
C1460	NDC31HJ-101X	C CAPACITOR	100pF 50V J		C1920	QCZ0397-106Z	C CAPACITOR	10uF 25V M	
C1472	QCZ0397-106Z	C CAPACITOR	10uF 25V M		C1921	NCB11EK-105X	C CAPACITOR	1uF 25V K	
C1473	QCZ0397-106Z	C CAPACITOR	10uF 25V M		C1922	NCB11EK-105X	C CAPACITOR	1uF 25V K	
C1474	NCB11CK-225X	C CAPACITOR	2.2uF 16V K		C1931	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	
C1477	NCB31HK-222X	C CAPACITOR	2200pF 50V K		C1932	NCB11EK-474X	C CAPACITOR	0.47uF 25V K	
C1501	QCB32HK-331Z	C CAPACITOR	330pF 500V K		C1933	QCZO122-821	C CAPACITOR	820pF 2kV K	
C1502	QEM61HK-225Z	E CAPACITOR	2.2uF 50V K		C1934	QECQ1EM-228	E CAPACITOR	2200uF 25V M	
C1503	QEM61HK-225Z	E CAPACITOR	2.2uF 50V K		C1935	QEZO203-107	E CAPACITOR	100uF 160V M	
C1504	NCB31HK-222X	C CAPACITOR	2200pF 50V K		C1936	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C1521	QFZO122-122	MPP CAPACITOR	1200pF 1.8kV H		C1937	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C1522	QFZO196-202	MPP CAPACITOR	2000pF 1.5kV H		C1938	QEHR1HM-107Z	E CAPACITOR	100uF 50V M	
C1523	QFP32JJ-562	PP CAPACITOR	5600pF 630V J		C1939	QEHR1CM-477Z	E CAPACITOR	470uF 16V M	
C1524	QFZO197-274	MPP CAPACITOR	0.27uF 250V J		C1940	QCZ0396-226Z	C CAPACITOR	22uF 16V M	
C1525	QEHR2AM-475Z	E CAPACITOR	4.7uF 100V M		C1941	NDC31HJ-151X	C CAPACITOR	150pF 50V J	
C1526	QEZO203-227	E CAPACITOR	220uF 160V M		C1942	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C1527	NDC31HJ-102X	C CAPACITOR	1000pF 50V J		C1943	QEHR1CM-227Z	E CAPACITOR	220uF 16V M	
C1551	NCB31HK-152X	C CAPACITOR	1500pF 50V K		C1944	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C1552	QEHQ1EM-228	E CAPACITOR	2200uF 25V M		C1945	QEHR1AM-337Z	E CAPACITOR	330uF 10V M	
C1554	QEHQ1EM-228	E CAPACITOR	2200uF 25V M		C1946	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C1555	QEHQ2CM-336	E CAPACITOR	33uF 160V M		C1949	NCB11EK-684X	C CAPACITOR	0.68uF 25V K	
C1556	NCB31HK-223X	C CAPACITOR	0.022uF 50V K		C1951	QCB32HK-102Z	C CAPACITOR	1000pF 500V K	
C1568	QCZ0396-226Z	C CAPACITOR	22uF 16V M		C1952	QCB32HK-391Z	C CAPACITOR	390pF 500V K	
C1569	NDC31HJ-102X	C CAPACITOR	1000pF 50V J		C1953	QCZ0396-226Z	C CAPACITOR	22uF 16V M	
C1570	NCB21EK-104X	C CAPACITOR	0.1uF 25V K		C1954	QEHR1HM-105Z	E CAPACITOR	1uF 50V M	
C1571	QEHR1AM-477Z	E CAPACITOR	470uF 10V M		C1955	QEHR1HM-476Z	E CAPACITOR	47uF 50V M	
C1572	NDC31HJ-102X	C CAPACITOR	1000pF 50V J		C1956	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C1573	QFLC1HJ-683Z	M CAPACITOR	0.068uF 50V J		C1957	QECR1HM-107Z	E CAPACITOR	100uF 50V M	
C1574	NCB11CK-105X	C CAPACITOR	1uF 16V K		C1958	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C1575	NCB31HK-682X	C CAPACITOR	6800pF 50V K		C1959	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C1576	QCZ0397-106Z	C CAPACITOR	10uF 25V M		C1960	QEHR1EM-477Z	E CAPACITOR	470uF 25V M	
C1577	QCZ0397-106Z	C CAPACITOR	10uF 25V M		C1961	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C1578	QCZ0397-106Z	C CAPACITOR	10uF 25V M		C1962	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	
C1579	QCZ0397-106Z	C CAPACITOR	10uF 25V M		C1963	QEHR1AM-337Z	E CAPACITOR	330uF 10V M	
C1580	QCZ0397-106Z	C CAPACITOR	10uF 25V M		C1964	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C1581	QCZ0396-226Z	C CAPACITOR	22uF 16V M		C1965	QEHR1CM-477Z	E CAPACITOR	470uF 16V M	
C1582	QCZ0396-226Z	C CAPACITOR	22uF 16V M		C1984	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	
C1583	NCB31HK-104X	C CAPACITOR	0.1uF 50V K		C1985	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	
C1584	NCB11CK-105X	C CAPACITOR	1uF 16V K		C1986	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	
C1585	NDC31HJ-102X	C CAPACITOR	1000pF 50V J		C1987	QCZ0396-226Z	C CAPACITOR	22uF 16V M	
C1586	NCB11CK-225X	C CAPACITOR	2.2uF 16V K		△C1990	QCZ9079-222	C CAPACITOR	2200pF AC250V M	
C1587	NDC31HJ-221X	C CAPACITOR	220pF 50V J						
C1588	NDC31HJ-560X	C CAPACITOR	56pF 50V J		R1405	QRE121J-1R5Y	C RESISTOR	1.5Ω 1/2W J	
C1589	QEHR1CM-227Z	E CAPACITOR	220uF 16V M		R1406	QRE121J-102Y	C RESISTOR	1kΩ 1/2W J	
C1590	QEHR2AM-106Z	E CAPACITOR	10uF 100V M		R1407	QRX01GJ-R82	MF RESISTOR	0.82Ω 1W J	
C1591	QFLC1HJ-104Z	M CAPACITOR	0.1uF 50V J		R1448	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	
C1801	QCZ0397-106Z	C CAPACITOR	10uF 25V M		R1449	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	
C1802	QCZ0397-106Z	C CAPACITOR	10uF 25V M		R1450	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
C1803	NCB31HK-104X	C CAPACITOR	0.1uF 50V K		R1451	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
C1804	QCB32HK-102Z	C CAPACITOR	1000pF 500V K		R1452	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	



△Ref No.	Part No.	Part Name	Description Local	△Ref No.	Part No.	Part Name	Description Local
R1453	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	△R1825	NRSA63D-223X	MG RESISTOR	22kΩ 1/16W D
R1454	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	△R1826	NRSA63D-183X	MG RESISTOR	18kΩ 1/16W D
R1456	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	△R1827	NRSA63D-183X	MG RESISTOR	18kΩ 1/16W D
R1457	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	△R1828	NRSA63D-183X	MG RESISTOR	18kΩ 1/16W D
R1458	QRG029J-100	OMF RESISTOR	10Ω 2W J	△R1829	NRSA63D-332X	MG RESISTOR	3.3kΩ 1/16W D
R1459	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R1830	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R1460	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	△R1831	NRSA63D-562X	MG RESISTOR	5.6kΩ 1/16W D
R1461	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	R1832	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R1462	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	R1833	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R1463	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	R1834	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R1464	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	R1835	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J
R1465	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	△R1836	NRSA63D-104X	MG RESISTOR	100kΩ 1/16W D
R1466	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	△R1901	QRZ0216-4R7	UNF WW RESISTOR	4.7Ω 7W K
R1468	NRSA63D-133X	MG RESISTOR	13kΩ 1/16W D	R1902	QRL039J-104	OMF RESISTOR	100kΩ 3W J
R1469	NRS144J-471X	MG RESISTOR	470Ω 1/4W J	R1903	QRL039J-104	OMF RESISTOR	100kΩ 3W J
R1470	NRS181J-821X	MG RESISTOR	820Ω 1/8W J	R1904	QRE121J-270Y	C RESISTOR	27Ω 1/2W J
R1472	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	R1905	QRM059J-R22	MP RESISTOR	0.22Ω 5W J
R1473	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	R1906	QRE121J-681Y	C RESISTOR	680Ω 1/2W J
R1474	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	R1907	QRE121J-103Y	C RESISTOR	10kΩ 1/2W J
R1476	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R1908	QRE121J-102Y	C RESISTOR	1kΩ 1/2W J
R1477	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R1909	QRE121J-152Y	C RESISTOR	1.5kΩ 1/2W J
R1480	NRSA63J-274X	MG RESISTOR	270kΩ 1/16W J	R1910	QRE121J-272Y	C RESISTOR	2.7kΩ 1/2W J
R1481	NRSA63J-564X	MG RESISTOR	560kΩ 1/16W J	R1911	QRE121J-332Y	C RESISTOR	3.3kΩ 1/2W J
R1482	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	R1912	QRE121J-824Y	C RESISTOR	820kΩ 1/2W J
R1484	NRSA63J-824X	MG RESISTOR	820kΩ 1/16W J	R1913	QRE121J-393Y	C RESISTOR	39kΩ 1/2W J
R1485	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	R1914	QRL039J-393	OMF RESISTOR	39kΩ 3W J
R1486	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R1915	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J
R1487	NRSA02J-152X	MG RESISTOR	1.5kΩ 1/10W J	R1916	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R1489	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	△R1917	QRZ0216-4R7	UNF WW RESISTOR	4.7Ω 7W K
R1491	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R1919	QRG039J-150	OMF RESISTOR	15Ω 3W J
R1501	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R1920	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R1502	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	R1931	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J
R1503	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R1934	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R1504	QRE121J-562Y	C RESISTOR	5.6kΩ 1/2W J	R1935	NRSA63D-822X	MG RESISTOR	8.2kΩ 1/16W D
R1505	QRL039J-332	OMF RESISTOR	3.3kΩ 3W J	R1936	NRSA63D-223X	MG RESISTOR	22kΩ 1/16W D
R1506	QRL039J-682	OMF RESISTOR	6.8kΩ 3W J	R1937	NRSA63D-133X	MG RESISTOR	13kΩ 1/16W D
R1507	QRE121J-220Y	C RESISTOR	22Ω 1/2W J	R1938	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R1508	QRE141J-2R2Y	C RESISTOR	2.2Ω 1/4W J	R1939	QRT039J-R33	MF RESISTOR	0.33Ω 3W J
R1521	QRE121J-332Y	C RESISTOR	3.3kΩ 1/2W J	R1940	NRS12BJ-223W	MG RESISTOR	22kΩ 1/2W J
R1523	NRS12BJ-223W	MG RESISTOR	22kΩ 1/2W J	R1941	QRL029J-680	OMF RESISTOR	68Ω 2W J
△R1551	QRZ9017-4R7	FUSI RESISTOR	4.7Ω 1/4W J	R1942	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J
△R1552	QRZ9021-1R0	FUSI RESISTOR	1Ω 1W J	R1944	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R1554	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R1945	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R1555	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R1949	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J
R1556	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	△R1950	NRSA63D-183X	C RESISTOR	18kΩ 1/16W D
R1557	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R1951	QRE121J-183Y	C RESISTOR	18kΩ 1/2W J
R1565	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J	R1952	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
R1568	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	△R1953	NRSA63D-183X	MG RESISTOR	18kΩ 1/16W D
R1570	NRSA63D-124X	MG RESISTOR	120kΩ 1/16W D	△R1954	NRSA63D-183X	MG RESISTOR	18kΩ 1/16W D
R1571	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	△R1955	NRSA63D-183X	MG RESISTOR	18kΩ 1/16W D
R1572	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	R1956	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J
R1573	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	R1957	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R1574	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	R1958	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J
R1575	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R1959	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R1576	NRSA63D-822X	MG RESISTOR	8.2kΩ 1/16W D	R1960	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R1577	NRSA63D-822X	MG RESISTOR	8.2kΩ 1/16W D	R1961	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R1578	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	R1962	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R1579	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	R1963	QRT029J-1R5	MF RESISTOR	1.5Ω 2W J
R1580	NRSA63J-563X	MG RESISTOR	56kΩ 1/16W J	R1964	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J
R1581	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	R1965	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J
R1582	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	R1966	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J
△R1583	NRSA63D-822X	MG RESISTOR	8.2kΩ 1/16W D	R1967	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
△R1584	NRSA63D-332X	MG RESISTOR	3.3kΩ 1/16W D	R1968	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
△R1585	NRSA02D-123X	MG RESISTOR	12kΩ 1/10W D	△R1971	NRSA63D-562X	MG RESISTOR	5.6kΩ 1/16W D
R1586	NRSA63J-224X	MG RESISTOR	220kΩ 1/16W J	R1972	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R1587	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R1973	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R1588	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R1976	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J
R1589	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	△R1977	NRSA63J-474X	MG RESISTOR	470kΩ 1/16W J
R1801	NRSA63J-820X	MG RESISTOR	82Ω 1/16W J	R1978	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R1802	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R1979	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R1803	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R1980	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R1804	NRS12BJ-103W	MG RESISTOR	10kΩ 1/2W J	R1981	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R1805	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	R1982	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R1807	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	R1983	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R1809	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R1985	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R1810	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R1986	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R1811	NRSA63J-393X	MG RESISTOR	39kΩ 1/16W J	R1987	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R1812	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R1988	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J
R1814	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R1991	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R1815	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	R1992	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R1816	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J				
R1818	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	L1451	QQLZ036-222	COIL	2.2mH J
R1819	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	L1521	QQR1265-001	LINEARITY COIL	
R1820	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	L1571	NQL914K-101X	COIL	100uH K
R1821	NRSA63J-393X	MG RESISTOR	39kΩ 1/16W J	L1921	NQL914K-220X	COIL	22uH K
R1822	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	L1922	NQL914K-220X	COIL	22uH K
R1823	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J	L1923	NQL914K-220X	COIL	22uH K

△Ref No.	Part No.	Part Name	Description Local
L1931	QQL26AK-560Z	CHOKE COIL	56uH K
L1933	QQL26AK-560Z	CHOKE COIL	56uH K
L1934	QQL28AK-470	COIL	47uH K
T1502	QQR1552-001	HOR DRIVE TRANS	
△T1801	QQS0372-001	SW TRANSF	
△T1901	QQS0335-001	SW TRANSF	
△CP1931	ICP-N75-T	IC PROTECTOR	2.7A
△CP1933	ICP-N10-T	IC PROTECTOR	400mA
K1901	QQR0868-001Z	FERRITE BEADS	
K1931	QQR0868-001Z	FERRITE BEADS	
SW1551	QAD0159-001	P THERMISTOR	
SW1552	QAD0159-001	P THERMISTOR	
X1501	QAX0876-001	C RESONATOR	500.00KHz

## CRT SOCEKT P.W. BOARD ASS'Y (FX-3078A-H2)

△Ref No.	Part No.	Part Name	Description Local
Q3001	2SC4544-LB	POW TRANSISTOR	
Q3002	2SC3928A/QR/-X	TRANSISTOR	
Q3003	2SC4544-LB	POW TRANSISTOR	
Q3004	2SC3928A/QR/-X	TRANSISTOR	
Q3005	2SC4544-LB	POW TRANSISTOR	
Q3006	2SC3928A/QR/-X	TRANSISTOR	
Q3007	DTC124EKA-X	DIGI TRANSISTOR	
Q3008	2SC2229/Y/	TRANSISTOR	
D3001	D1FL20U-X	SI DIODE	
D3004	D1FL20U-X	SI DIODE	
C3001	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C3002	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C3003	NCB31CK-105X	C CAPACITOR	1uF 16V K
C3004	NDC31HJ-221X	C CAPACITOR	220pF 50V J
C3005	NDC31HJ-330X	C CAPACITOR	33pF 50V J
C3006	NDC31HJ-221X	C CAPACITOR	220pF 50V J
C3007	QEHQ2CM-336	E CAPACITOR	33uF 160V M
C3008	NCB31CK-105X	C CAPACITOR	1uF 16V K
C3009	NDC31HJ-221X	C CAPACITOR	220pF 50V J
C3010	NDC31HJ-330X	C CAPACITOR	33pF 50V J
C3011	NDC31HJ-221X	C CAPACITOR	220pF 50V J
C3012	NCB31CK-105X	C CAPACITOR	1uF 16V K
C3013	NDC31HJ-221X	C CAPACITOR	220pF 50V J
C3014	NDC31HJ-330X	C CAPACITOR	33pF 50V J
C3015	NDC31HJ-221X	C CAPACITOR	220pF 50V J
C3016	QEHQ2CM-336	E CAPACITOR	33uF 160V M
C3017	QEHQ2CM-336	E CAPACITOR	33uF 160V M
C3018	QCZ0121-102	C CAPACITOR	1000pF 3KV Z
C3020	QEHQ2CM-336	E CAPACITOR	33uF 160V M
C3021	QFN32DK-103	M CAPACITOR	0.01uF 200V K
R3001	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R3003	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R3004	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J
R3006	NRSA63J-121X	MG RESISTOR	120Ω 1/16W J
R3007	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J
R3008	NRSA63J-680X	MG RESISTOR	68Ω 1/16W J
R3009	QRL029J-153	OMF RESISTOR	15kΩ 2W J
R3010	QRL029J-153	OMF RESISTOR	15kΩ 2W J
R3011	QRZ0107-102Z	C RESISTOR	1kΩ 1/2W K
R3012	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R3014	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R3015	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J
R3017	NRSA63J-121X	MG RESISTOR	120Ω 1/16W J
R3018	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J
R3019	NRSA63J-820X	MG RESISTOR	82Ω 1/16W J
R3020	QRL029J-153	OMF RESISTOR	15kΩ 2W J
R3021	QRL029J-153	OMF RESISTOR	15kΩ 2W J
R3022	QRZ0107-102Z	C RESISTOR	1kΩ 1/2W K
R3023	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R3025	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R3026	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J
R3028	NRSA63J-121X	MG RESISTOR	120Ω 1/16W J
R3029	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J
R3030	NRSA63J-680X	MG RESISTOR	68Ω 1/16W J
R3031	QRL029J-153	OMF RESISTOR	15kΩ 2W J
R3032	QRL029J-153	OMF RESISTOR	15kΩ 2W J
R3033	QRZ0107-102Z	C RESISTOR	1kΩ 1/2W K
R3035	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R3036	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J

△Ref No.	Part No.	Part Name	Description Local
R3037	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R3038	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
R3039	QRE121J-223Y	C RESISTOR	22kΩ 1/2W J
R3040	NRSA63J-564X	MG RESISTOR	560kΩ 1/16W J
R3041	QRZ0107-102Z	C RESISTOR	1kΩ 1/2W K
R3042	NRSA63J-564X	MG RESISTOR	560kΩ 1/16W J
L3001	QQL244J-151Z	PEAKING COIL	150uH J
L3002	QQL244J-151Z	PEAKING COIL	150uH J
L3003	QQL244J-151Z	PEAKING COIL	150uH J
△SK3001	QNZ0796-001	CRT SOCKET	

## FRONT CONTROL P.W. BOARD ASS'Y (FX-4097A-H2)

△Ref No.	Part No.	Part Name	Description Local
Q4001	DTA124EKA-X	DIGI TRANSISTOR	
Q4002	DTA124EKA-X	DIGI TRANSISTOR	
Q4003	DTA124EKA-X	DIGI TRANSISTOR	
Q4004	DTA124EKA-X	DIGI TRANSISTOR	
Q4005	DTA124EKA-X	DIGI TRANSISTOR	
D4001	MA111-X	SI DIODE	
D4002	MA111-X	SI DIODE	
D4003	MA111-X	SI DIODE	
D4004	MA111-X	SI DIODE	
D4005	MA111-X	SI DIODE	
D4006	MA111-X	SI DIODE	
D4007	MA111-X	SI DIODE	
D4008	MA111-X	SI DIODE	
D4011	GL3ED8	LED	POWER
D4012	MA111-X	SI DIODE	
D4013	SLR-342MG3F	LED	INPUT A (GREEN)
D4014	SLR-342MG3F	LED	INPUT B (GREEN)
D4016	GL3ED8	LED	DC INDICATOR
C4001	NCB10JK-106X	C CAPACITOR	10uF 6.3V K
R4001	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
R4002	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
R4003	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J
R4004	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J
R4006	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
R4007	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
S4001	QSW0619-003Z	PUSH SWITCH	CHROMA/PHASE
S4002	QSW0619-003Z	PUSH SWITCH	CONTRAST/BRIGHT
S4003	QSW1125-001	TACT SWITCH	MENU
S4004	QSW0619-003Z	PUSH SWITCH	UNDER SCAN
S4005	QSW0619-003Z	PUSH SWITCH	BLUE CHECK
S4006	QSW0619-003Z	PUSH SWITCH	COLOR OFF
S4007	QSW0619-003Z	PUSH SWITCH	INPUT A
S4008	QSW0619-003Z	PUSH SWITCH	INPUT B
S4011	QSW0619-003Z	PUSH SWITCH	POWER

## TALLY P.W. BOARD ASS'Y (FX-7060A-H2)

△Ref No.	Part No.	Part Name	Description Local
D7001	SEC1601C-X	LED	
D7002	SEC1601C-X	LED	
D7003	SML-210MT-X	LED	
D7004	SML-210MT-X	LED	
D7005	SML-210MT-X	LED	

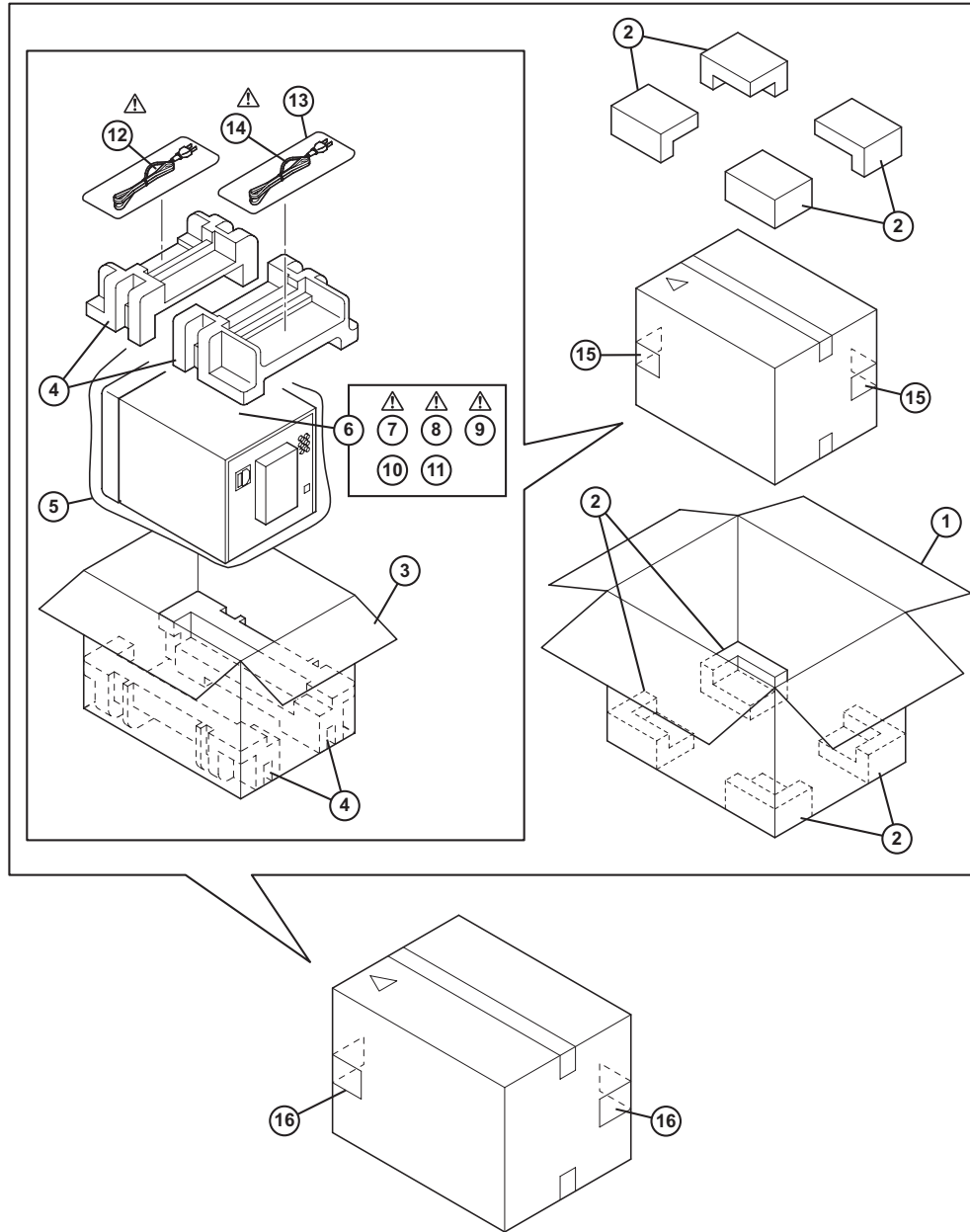
LINE FILTER P.W. BOARD ASS'Y  
(FX-9097A-H2)

△Ref No.	Part No.	Part Name	Description Local
△D9901	D3SB60	BRIDGE DIODE	
△C9901	QFZ9036-104	MF CAPACITOR	0.1uF AC250V M
△C9902	QFZ9036-104	MF CAPACITOR	0.1uF AC250V M
△C9903	QFZ9036-104	MF CAPACITOR	0.1uF AC250V M
△C9904	QCZ9078-102	C CAPACITOR	1000pF AC250V M
△C9905	QCZ9078-102	C CAPACITOR	1000pF AC250V M
△C9906	QCZ9078-102	C CAPACITOR	1000pF AC250V M
△C9907	QCZ9078-102	C CAPACITOR	1000pF AC250V M
△C9991	QCZ9079-102	C CAPACITOR	1000pF AC250V M
△C9992	QCZ9079-102	C CAPACITOR	1000pF AC250V M
△F9901	QMF5AD2-5R0-J1	FUSE	5A AC250V
△LF9901	QQR0527-002	LINE FILTER	
△LF9902	QQR1217-001	LINE FILTER	
△TH9901	QAD0137-4R5	P THERMISTOR	

DC INPUT P.W. BOARD ASS'Y  
(FX-8035A-H2)

△Ref No.	Part No.	Part Name	Description Local
IC8901	BAJ0BC0FP-X	IC	
IC8902	BA90BC0FP-X	IC	
IC8903	REF3130AIDBZ-X	IC	
IC8904	BA4558F-X	IC	
D8901	1SR139-600-T2	DIODE	
D8902	1SR139-600-T2	DIODE	
D8903	MA111-X	SI DIODE	
D8904	MA111-X	SI DIODE	
D8905	D1FL20U-X	SI DIODE	
D8906	MA3062/M/-X	Z DIODE	
D8907	MA111-X	SI DIODE	
D8908	MA111-X	SI DIODE	
D8909	MA3051/M/-X	Z DIODE	
C8901	QEC1VM-108	E CAPACITOR	1000uF 35V M
C8902	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C8903	QEHR1EM-337Z	E CAPACITOR	330uF 25V M
C8904	QEHR1CM-108Z	E CAPACITOR	1000uF 16V M
C8905	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C8906	QEHR1EM-477Z	E CAPACITOR	470uF 25V M
C8907	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C8908	QEHR1CM-477Z	E CAPACITOR	470uF 16V M
C8909	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C8911	QEHR1AM-227Z	E CAPACITOR	220uF 10V M
C8912	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C8913	QEHR1HM-476Z	E CAPACITOR	47uF 50V M
R8902	NRSA63D-103X	MG RESISTOR	10kΩ 1/16W D
R8903	NRSA63D-332X	MG RESISTOR	3.3kΩ 1/16W D
R8904	NRSA63D-473X	MG RESISTOR	47kΩ 1/16W D
R8905	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R8906	NRSA63D-103X	MG RESISTOR	10kΩ 1/16W D
R8907	NRSA63D-472X	MG RESISTOR	4.7kΩ 1/16W D
R8908	NRSA63D-223X	MG RESISTOR	22kΩ 1/16W D
R8909	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J
R8911	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R8916	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J
R8917	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J
L8901	QQL26AJ-102Z	PEAKING COIL	1mH J
S8901	QSW1141-001	PUSH SWITCH	DC POWER
SW8901	QAD0167-002	P THERMISTOR	

# PACKING



## PACKING PARTS LIST

△ Ref.No.	Part No.	Part Name	Description	Local
1	LC11194-032A-H	PACKING CASE		TM-1011GC
2	LC31100-001A-H	CORNER PIECE	(x8)	TM-1011GC
3	LC11194-033A-H	PACKING CASE		
4	LC12627-001A-H	CUSHION ASS'Y	4pcs in 1set	
5	CP30974-003-H	POLY BAG		
6	CP30966-001-H	POLY BAG		
△ 7	LCT1990-001A-H	INST BOOK	German, French, Italian, Spanish	TM-1011GE
△ 8	LCT1989-001A-H	INST BOOK	English	
△ 9	LCT1991-001B-H	INST BOOK	Chinese	TM-1011GC, TM-1011GE
10	-----	WARRANTY CARD	BT-51014-3	TM-1011GU
11	LCT1923-005A-H	SHEET(WEEE)-H		TM-1011GE, TM-1011GU
△ 12	QMPL040-200-JC	POWER CORD(EU)	2m BLACK	TM-1011GE
13	QPA01203005	POLY BAG	12cm x 30cm	TM-1011GC, TM-1011GU
△ 14	QMPS210-200-JC	POWER CORD	2m BLACK	TM-1011GC
△ 14	QMPP170-200-JC	POWER CORD(EK)	2m BLACK	TM-1011GE
△ 14	QMPE330-244-JC	POWER CORD(US/CA)	2.44m BLACK	TM-1011GU
15	LC20989-001A-H	CORNER LABEL	(x2)	TM-1011GE, TM-1011GU
16	LC20989-001A-H	CORNER LABEL	(x2)	TM-1011GC